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THE CARE OF THE INSANE IN PRIVATE PRACTICE.

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One needs but to examine the literature and to see who writes upon the topic, to ascertain beyond question that the subject of insanity receives but little attention from the general practitioner.

After looking over the reports of the last five sessions of the Oregon State Medical Society, and calling to mind the work of the Portland Medical Society during the same period, it seems safe to say that not a paper upon this subject has been presented by a physician of this State at any of these meetings during such time. Papers upon almost all medical topics have been presented before these societies by physicians of this State, but the great field of psychiatry has been during this period ignored. The history of medicine in Oregon in this particular is, to a great extent, the history of medicine everywhere, and it teaches us that the general practitioner is leaving the subject of insanity, to a very great degree, to those who make of it a specialty.

Personal replies to letters of inquiry addressed to the various medical superintendents, and the last annual reports which are accessible for the State insane institutions of this region, give us the following information of the work of the preceding year:

Asylums.	Admitted.	Discharged.	Recovered.	Died.	On Hand.
Agnews, Cal.[1]	360	155	97	95	902
Napa, Cal.[2]	247	93	58	97	1,404
Medicino, Cal.[3]	230	93	80	48	385
Southern, Cal.[4]	269	136	127	32	454
Stockton, Cal.[5]	252	121	91	136	1,472
Idaho[6]	50	21	. .	10	117
Montana[7]	93	40	32	25	262
Nevada[8]	64	26	22	27	190
Oregon[9]	390	217	57	81	1,106
Utah[10]	65	28	25	19	236
Fort Steilacoom, Wash.[11]	216	107	54	61	535
Medical Lake, Wash.[12]	76	26	13	16	252
Total	2,312	1,063	656	647	7,325

In addition to those noted as "recovered," the reports also show that others have been "much improved," "improved," etc., and the Idaho report does not specify the number "recovered."

The reports above mentioned also show that there were 10 per cent. more patients confined in these asylums at the end of the fiscal year, than at its commencement.

Insanity is increasing. Dr. Forbes Winslow,[13] in his address at the Medico-Legal Congress in New York, September, 1895, said that the increase in England is now about 2,000 cases per year; the proportion being in 1895, 30 per 10,000 population, while it was but 28.12 in 1886.

In the United States in 1880, we had 50,155,783 inhabitants, and an insane population estimated at 56,205. The census nine years later gave a total population of 62,622,250, and the number of insane in private and public institutions was 97,535, indicating, as pointed out by Dr. John Punton,[14] an enormous increase of our insane in this brief time of over 73 per cent.! This increase, however, was more apparent than actual, the statistics being much more reliable and complete at the latter date. The per cent. of increase is actually small, but that there is an increase is quite certain.

Dr. John Punton,[14] in speaking of the relation of the profession to the great subject of insanity, also remarked: "It is surprising as well as humiliating to notice how many members of the profession admit both by their words and actions, that they have given this subject little or no study, and in this way excuse themselves from their lawful and responsible duties."

The foregoing statements showing the frequency of insanity, and the local dearth of literature upon the subject, are presented to this Society as an excuse for the present paper. Oregon has many physicians of large experience, and ample knowledge of the science of psychiatry, and in the absence of any recent medical paper from these gentlemen, I have thought it permissible to discuss one phase of this great and growing subject.

The disposition of the general practitioner to shift his own responsibility as to insane cases to the shoulders of a State officer, is in many cases entirely wrong, and this paper will attempt to show why he had in the interest of his patient, rather to employ private than public care, wherever the former course is possible.

The physician upon whose professional advice a human being is committed for the first time to a public institution for the insane, is not only treading upon solemn ground but, in participating in an act which takes the right of liberty from another, is in that act assuming a most responsible position. The judge who issues that mandate from which shall come the confinement of a fellow citizen in an insane asylum for the first time, and that will affix a stigma to the individual which can not thereafter as long as life shall last be removed, is performing an act most serious and solemn. "The matter of committing a patient to a hospital for the insane is one of grave importance. No man can safely say that he will never come under its scope. It affects all conditions of life."[15]—Semple.

Alienists tell us that a considerable proportion of the insane of our race comes from those known as defectives. Homeless, penniless and friendless, with a mind diseased and life's prospects a blank, we may readily make ourselves believe that the only hope for such an individual lies in the kindly hands of skilled officers of a State insane asylum. While this class of our insane may thus seem to be at their best when promptly handed over to the authorities of an insane

asylum, I am constrained to express the view, that in the initial outburst of insanity they, more than any other because more helpless and needful of aid, and more readily impressed by psychic influences, should be given the benefit of scientific, patient, careful, separate treatment.

Many of this class will either die early, or develop chronic insanity; but none the less, those who are passing through an initial and uncertain stage which might early give place to sanity, should have the right to go through life without the consciousness in self or the knowledge on the part of the public that they have been inmates of an insane asylum.

The man whose mental balance was but off the narrow line of sanity, but who in hurried haste was consigned to an asylum, will ever feel cause for harassing shame day and night, while he who may have been a frantic maniac, yet treated in a private home, when again clothed in his own mind will have an image of his former misfortune more shadowy from day to day, which will ultimately pass away. The largest proportion of our insane are poor, but the poverty of one of these is not a reason for a careless or hurried commitment. The cost for the public care of our insane almost exceeds that of any other branch of the government. Why should not the municipality or county divert a portion of its funds to the private care of the insane poor?

We have State penitentiaries and county jails. One is for the confinement of the confirmed or grosser criminal, and the other for the milder cases of crime. While the penitentiary and jail are for the vicious, and the insane asylum is for the unfortunate, and while in one sense comparison might appear harsh, yet in the matter of expense and benefit to these charges of the public, much may be learned in regard to one class, by studying the methods and results of the care of the other. We see that there is a disposition on the part of the commonwealth to show consideration for criminality in its initial state; a desire to save from the greater ignominy of a State penal institution those new in crime; a sympathy not given to that more unfortunate class, the insane.

I believe that these poorer classes of the insane deserve our deepest sympathy, and should, where there is a likelihood of recovery, have careful treatment in private or county hospitals before confinement and contact with other insane shall be made in a State asylum. Under our present system I recognize the fact that this is practically impossible. Proper treatment would necessitate a quiet, homelike place, a skilled nurse in constant attendance, and that more than ordinary thought and care should be given by the physician in charge.

Such cases at the present time would come under the regular county physician, and he is not expected, nor has he the facilities, or is he paid to look after these cases. They would in the larger cities require that a special physician should be detailed by the municipality to care for them. Until the public can better understand the subject and shall realize what is to be gained by the separate treatment method, the slightly increased expense necessary in private separate care, will not be readily undertaken by the public authorities.

If the method which I advocate is the best one, it will devolve upon the medical profession to first educate the public up to the facts, and to follow this by an effort for proper laws providing for the private treatment of the insane poor. Under the present laws of this State, an insane case in private practice is restrained under the same liabilities to the physician having the same in charge, as are present in the restraint of a fever patient with delirium or any similar condition; such liability being therefore much more personal than that exacted of the authorities of a public insane asylum. It should be so, to guard against abuses in private treatment, but laws should be passed providing for the private care of the pauper poor. Private institutions for the insane should be be subject to close inspection by State officials. The private treatment of the poor would not include the care of the incurable or chronic, but the conservation of the private interests of the individual, always of prime importance to the State, should make it desirable that every case in its initial stage should, in my opinion, have the benefit of private treatment.

Our public asylums are made as pleasant as circumstances will permit. They are always crowded with those unable to enjoy private treatment. They are officered by the choicest students of psychiatry in the profession, and ministered to by medical men with kind hearts and broad minds, yet there is, and always will be, a sense of dread and horror when contemplating the medley of mental wrecks under treatment at a public hospital for the insane; and if a case of insanity can recover outside of the atmosphere of such an institution, he can scarcely fail to have gained by such an advantage. To awaken to sanity and witness and live even for a brief time in a neighborhood of lunatics, with the feeling that the individual himself has just escaped such thralldom, will leave a never-ceasing impression upon the invalid which will not only cloud his life, but may affect generations yet unborn.

There is another phase to this subject, and that is the question of State expense. At present many persons of the families of the well-to-do accept the service of the State insane asylum. The poor of every class are entitled to public charity, but the insane rich should no more accept support from the State, than should the wealthy sane expect an appropriation from the poorhouse fund to relieve his daily wants.

In the language of Dr. H. C. Willison:[16] "The pecuniary cost of maintaining so great a number of non-producers in our State asylums at the public expense, must necessarily engage the serious consideration of the statesman and political economist." We should therefore consider the private resources of the patient, and especially in the early stage of initial insanity, and decline to be a party to an act which will make a public charge of one otherwise readily and properly provided for.

"The average length of life in the chronic insane is estimated at twelve years. Of the number admitted, less than one in three recovers, making an average of eight years' treatment for each person admitted to the hospitals. At $16 per month their cost of maintenance would be over $1,500 each, and the per capita cost of buildings required for their shelter at least $500 more."—Semple.[17]

Most States provide by law for the care at public expense of the poor only, but that local authorities and insane boards seem to be willing to make of all insane cases public charges, is illustrated by a statement made by the board of trustees of the Agnews Asylum of California.[18] They say: "We believe that there would be more pay patients if the county courts or officers of the courts, would diligently investigate

every patient at the time of commitment, as to his ability to pay the cost of their maintenance."

"State asylums are supposed to be for the indigent, but they are not always so. Upon investigation we have obtained information to our satisfaction that there are a number of patients in the asylum committed as indigents, who, as a matter of fact, own property in their own right or are heirs to estates now being probated, or have relatives amply able to meet the expense of their care and maintenance, but we fail to find any provision of law by which we can do otherwise than maintain them as wards of the State." —Pike.[19]

Our asylums are also much crowded. The reports of the various superintendents, when discussing this subject are much in the same strain. Dr. Asa Clark[20] says: "The number of patients in the asylum has not lessened during the past eight years, although other State asylums have been opened, but still maintains its uncomfortable magnitude."

There is a large number of those who become insane that comes from the better walks in life. People of good birth, noble ancestry and taintless blood, whose families are fortunately situated so that they can meet whatever expense may be deemed necessary to restore to health or to give a chance for such restoration, the mental faculties of the invalid friend or relative. In this class are to be included many who are victims of injury, of poison, septic, intestinal and otherwise, of sickness, of grief or prolonged mental strain, or of other extraordinary influences. The friends of these patients shrink from the idea of public asylum treatment, and an association with the public insane of the criminal and lower classes, and desire that private care shall be employed. These are therefore the cases which today are amenable to private treatment. From the position which such patients occupy in the social, professional or mercantile world, there is still greater reason that the odium of asylum life shall not attach to them. From financial advantages possessed by these people there comes, as always to those financially strong, a certain special responsibility to the community. Their means should be made of advantage through wise action or proper laws to those less fortunate. A demonstration of the benefits to be derived from private treatment should be gained through the methods and results obtained in their cases.

The insane case will fare best when under the care of a practitioner who has pursued his studies among the insane in public and private institutions, and acquired such a groundwork of knowledge that when cases do present he shall have little difficulty in renewing his knowledge by a review of the literature on the subject. Yet, without such experience the average practitioner can usually handle these cases if he is willing to take time to study up the matter and possesses the facilities therefor.

The insane mind is of subtle composition, and by the early recognition of the initial aberrations, we may be able to put a stop to mental changes then going on, which, if unrestrained, might lead to the grosser mental states of unsoundness. We often require too much to convince us that the patient is beginning to show signs of mental change and needs mental treatment. It would be better to insist upon an early treatment of the malady under the name of nervousness, than to await acute symptoms which all may be able to denominate as insanity.

Williams[21] says: "Those who are not acquainted with the progress or nature of insanity, seek to ignore its presence unless it is accompanied by positive evidence of material derangement. Regarding disease as an active agent whose exposition necessitates physical change, they demand further proofs of its existence than such as are derivable from actions admitting, as they assert, of conflicting explanations."

"That the insane are sick people who are entitled to the kindest consideration and management, and treatment by the best medical skill attainable, is a fundamental principle that should guide us as in all matters concerning them," says Dr. William Francis Dreary.[22] What kind of treatment, what manner of consideration for a mentally sick person is it to crowd him into jail among criminals, to a court for examination, and from thence to hurry him off to a place of confinement along with hundreds of others like unfortunate?

There is a larger proportion of recoveries from acute insanity than from many other acute diseases, and many insane are not half so violent and troublesome as a typhoid fever patient. Why is not the unfortunate who is mentally sick entitled to as much consideration as the patient whose intestinal glands are in a state of specific fermentation? Dr. A. S. Watson, quoted by Dr. Mary B. Atwater,[23] has this to say: "Fully 80 per cent. of all insane cases may be cured if treated early and properly."

The association so often necessary in asylums of those who are pure-minded, yet demented, with the criminal insane, is a matter of no small consequence. Upon this subject Dr. G. H. Thomas[8] has this to say: "Eminent alienists depreciate the association of this class of patients (criminal insane) with those who are innocent of crime, but whose confinement through sickness or misfortune is made necessary. It is not only a question of association, but this class of insane are usually violent, and for safe keeping must be kept in restraint; the effect of this on the better class of inmates, who frequently realize the character of such violent associates, is not conducive to good order or to their recovery.

Many cases of insanity even of a rather violent type, will soon recover if tact and patience are employed in the care of such cases. I have in mind a patient which Dr. E. W. Tape of this city asked me to see with him on two occasions in February last, where the friends were somewhat determined to have the invalid, who was wildly delirious, sent to the State asylum. In view of the fact that this patient had formerly been insane, it was not unreasonable for the friends to believe a commitment advisable; but with the recovery from a concurrent malady, and after close and wearisome care upon the part of the physician, Dr. Tape had the satisfaction of seeing his patient within a short time fully recovered from his mental distress.

Not every case will recover, but if not, the family and friends can not fail to be much better satisfied after a course of private treatment has been entered into and thoroughly carried out; even should the case eventually become chronic and public care thereupon be invoked. Dr. H. C. Hoffman of this city asked me to see a case in April, 1896, which is in point. The greatest reluctance was felt by the friends to a public commitment and private treatment was instituted. Although this case passed out of the professional observation of Dr. Hoffman and myself many months

ago, yet I have learned that some degree of private care and treatment was administered up to the time of commitment, which was but a few days ago, and I feel certain that not only were the rights of the patient conserved by the opportunity for private treatment which was given, but that the friends are much more resigned to the results than they otherwise would have been.

The Oregon report[24] shows that there were sixteen patients committed to the asylum under 15 years of age during the year. It is a sad sight to see patients so young committed to an insane asylum. Dr. Sarah B. Welt, in a series of tables on this subject,[25] speaks of the rarity of insanity in the young, although admitting its presence and seriousness. The hospital reports indicate that it is frequent.

Sachs says:[26] "It is well to emphasize the fact that mental derangement in childhood is recovered from more frequently than is the case with insanity of later years. But a child that has ever been insane is a tender plant that needs special care." Forbes Winslow[27] points out that children are liable to transient mental disorders, which pass away without leading to after-results.

"Many young people who are just entering manhood and womanhood have been so raised that a special amount of moral perversion, bordering so close upon insanity, has ensued, that their parents in desperation are inclined to have them committed as cases of moral insanity. These cases are not insane but need restraint, and in firmer hands than formerly accustomed to at home, will often become useful citizens."—McCassy.[28]

Dr. W. A. Hammond[29] emphasizes the fact that the insanity of children is most often marked by fixed delusions and a malignancy toward relatives, a special reason for separation of such cases from their own homes. A case came under my treatment last August from Dr. J. J. Leavitt of Mollalla, Oregon, which illustrates the youthfulness of some patients, also the brevity of the attack in many cases. This patient was a sufferer from melancholia with delusions of persecutions. She was but 16 years of age, of a good family, and had been in excellent health until attacked by a severe and prolonged course of inflammatory rheumatism in the course of which cerebral meningitis was present. After a tedious recovery melancholia had ensued. She was placed under treatment and at the end of six weeks returned to her home entirely recovered.

The mental state in this case, while pronounced, was of a mild and transient character. Within a year she will hardly remember her trip to Portland in connection with any mental difficulty, and her friends will scarcely take notice of that event, now or hereafter. If she had been sent to a lunatic asylum the associations of such an event would never have passed from her mind, and the odium of such confinement would have remained with her until the end of her life, no matter how remote that event may be.

We need but give a casual examination of the insane hospital's report to ascertain, if we did not know it before, that the largest proportion of "recoveries" occur shortly after admission into these institutions. From the Oregon Report[24] we learn that 163 patients were discharged as recovered; of these 118 were in the asylum less than six months, and one-half of these recoveries occurred in less than three months from the time of first confinement, while there were only 25 recoveries occurring over one year after reception at the asylum. The moral of this is that but a comparatively brief course of private treatment will be required to determine as to the question of recovery in most cases and, too, such figures emphasize the statement which has been made, that the asylum stigma should not be permitted, except after at least a few months of private treatment.

Another class of cases which should, where possible, be given the benefit of private treatment, are those individuals on the border line between the regions of sanity and insanity, who have become addicted to alcohol or other drugs to such an extent as to require that some restraint should be employed while the poison which has been taken is being withdrawn. These cases are often sent to asylums to their everlasting discomfort and chagrin, although the hospital officials may even decline to receive them. In fact, as pointed out by Dr. W. H. Anderson,[30] in some States, as in Washington, the law forbids the commitment of cases of "inebriety, harmless chronic mental unsoundness and acute mania potu."

"Alcoholic excesses are directly the cause of at least 10 or 12 per cent. of insanity, and probably a somewhat larger percentage."—Waughop.[31]

"It is now well established that the unrestricted use of narcotics and stimulants, or those agents which unduly and directly dull or excite the mind organs, are the most powerful exciting causes of insanity. These are well-established biologic facts, and it now remains for philanthropists, sociologists and legislators, in their respective spheres, as well as the individual, to take these facts and use them for the prevention of a great part of this awful affliction—insanity."—Givens.[6]

No one is more competent to discuss the subject of commitment than Dr. Landon Carter Gray,[32] who says: "The question of commital of a case of melancholia, is often one that involves a great responsibility. My rule is, never to commit a patient who can be treated at home, for I am no believer in asylum treatment of curable cases of insanity. In melancholia, as well as in many other forms of mental disease, the preceptions and the memory are frequently unimpaired, or but slightly affected, and the patient either has a full realization of the fact that he or she is in an asylum, or will in time awaken to such realization.

"The nurses of a lunatic asylum are never as efficient as the trained nurses which we are now fortunate in possessing in such numbers, nor are they of as high a class in point of refinement and education.

"Beside the convalescence of patients in a lunatic asylum simply brings them face to face with what is generally regarded, whether justly or not, as one of the most distressing things in life, namely, a lunatic asylum. Then too, however slight their mental affections may have been, the fact that they have been committed to a lunatic asylum clings to them through life. Like Lady Macbeth's 'damned spot' that would not out, it too frequently blasts their career, while a severe attack of mental disease treated at home is lightly regarded by the laity under some soothing euphuism, as brain fever. Nor do I believe that the stage of convalescence can fail to be retarded by the constant contact with lunatics. For all these reasons I never commit a patient to an asylum, as I have said, if he or she can be treated at home. The question whether the latter can be done will be determined by the degree of insanity, the probable duration of it, the evironment of the patient and his or her circumstances."

In a considerable number of drug habitués, including alcoholics, morphin and cocain users which have been under my care, several have been upon the borderland of sanity, and in at least two cases actual insanity was present. The relief from the drug habit has restored the normal mental condition, and the patients who were supposed to be under treatment for other complaints, have returned to their friends without the stigma of having been inmates of an insane asylum.

Regarding the confinement of the pauper drunkard, Dr. T. D. Crothers[33] says: "That he should be sent to the inebriate reforming hospital or workshop, for the institution should include both these features. We are dealing with a diseased person not a criminal, but as a pauper inebriate without friends, or if he has friends without means. For the wealthy inebriate there are abundant provisions, as private asylums are numerous and the appointments are very complete for his treatment, both here and abroad."

Dr. L. L. Rowland[24] in his report for the Salem asylum, refers to the number of alcohol, morphin and cocain habitués that are sent to that institution and points out the undesirability of the same from every point of view. Nothing, it seems to me, is worse for a drug-taker, than to be compelled to associate with the insane. I belive that alcoholism and other drug-habit conditions are largely diseases, and should be treated as such. That there is an insane phase to many of them seems probable, while actual insanity in many cases is prominent and unmistakable.

I might refer to a cocain-morphin-chloral patient, referred to me by Dr. H. D. Fenton of Portland some months ago. This habitué was and had been insane for some time before he came under my care. The treatment of the case included not only the treatment of the drug habit, but also the insanity from which he suffered, yet within two months his drug habit had been broken and his proper mental state recovered. Asylum treatment could not, I believe, have done as well for this patient. His friends and neighbors do not know he had a drug habit and they have already ceased to, if in fact, they ever did, comment upon his visit to Portland, whereas, if he had been sent to an insane asylum he would have secured notoriety which would have scarcely ever passed from him.

A paper of considerable length would be required to discuss the details of the treatment of the insane, which is not now attempted, and therefore only a glance can be cast at this phase of the subject. New methods are being adopted and the plans of treatment are changing, and while the general practitioner can scarcely be expected to remain fortified with knowledge upon this subject so that he may be ever ready for such occasional case as may come under his care,yet when it does appear he needs to thoroughly canvass the field of psychiatry in quest of the latest methods of treatment.

The insane should rarely ever be treated in their own homes. A patient is best environed when placed among strangers. The family should be excluded from the sick room. "Visitors to insane patients often do much harm unintentionally. Friends and relatives exert an irritating effect upon the insane in unexpected ways, and calmness has frequently been succeeded by weeks of disturbance after a visit of the well-meaning relative. There are times, which the physicians are prompt to recognize, when the patient is made better by seeing his friends, and they are usually notified at once upon such occasions."—Clevenger.[34]

The returning mentality of the insane needs to be nurtured like the growing mind of a child. It must be led step by step. The benefit of the promises of reward and the good results experienced in exceptional cases is illustrated by a patient now convalescing under my care at Mindsease Sanitarium, which was referred to me by Dr. H. S. Pernot of Corvallis, Oregon. The mental discipline and the cheerfulness resulting from the promise of the visit of a loved relative kept prominently before the patient for many days, broke into a markedly melancholic state with gratifying results.

On the subject of environment, Dr. Punton[14] has this to say: "It seems beyond the comprehension of many persons that insanity deranges rather than destroys the mind in its incipient stage. Much therefore depends upon the selection of a responsible nurse to carry out the treatment. Another important step is the isolation of the patient, whether treated at home or elsewhere. It is often with difficulty that the friends and relatives can be made to realize the necessity and importance of this measure. But those of us who have devoted time and attention to this study, know too well that the probability of recovery is much increased when the patient is committed to the care of strangers."

"In many pronounced cases of melancholia in which the family relations are a source of worry and anxiety, I positively refuse to treat the patient unless isolation can be obtained."—Landon Carter Gray.[32]

"In the beginning, at least, our object must often be to remove the patient from the action of those daily irritants which are often exercised upon him in his business in the care of self-support, in the irrational conduct of his relatives and often in violent reproaches. In recent cases it is then always better for a time to break off all communication with the family in order to avoid emotional excitement."—Kirchoff.[35]

"In mental diseases, as in all other derangements of the organism, a duly regulated measure of repose and activity is among the most important means of treatment; for the most part this can only be obtained by entirely removing him from his usual neighborhood and by exposing him to the influence of new and perfectly different impressions."—Grisinger.[36] Even if taken but across the street, the patient is benefited by the removal from home and surroundings.

"Perhaps the most important factor of family care, so-called, is the nurse. Persons fitted to the care of the insane are born and not trained. Isolation, either in a well-equipped hospital or a private house other than his own, is imperative."—Riggs.[37]

There is no more prolific source of insanity than auto-infection, and to meet this condition, Bouchard[38] calls attention to the necessity of a carefully selected diet and the free operation of all the emunctories. Salines he especially recommends, and I can testify as to their value. Intestinal antisepsis should be a feature in nearly every case, and the agent employed for this purpose should be such as shall not interfere with normal digestion and yet be powerful enough to destroy the microörganisms which are doing the mischief and to neutralize the ptomains already present in the tract. My own experience accords with that of Dr. John Aulde[39] and Dr. G. M. Blech,[40] that hydrogen dioxid is a most satisfactory agent for intestinal disinfection. Dr. Aulde uses a 3 per cent. and Dr. Blech a 2 per cent. solution of hydrozone in water, from two to eight ounces of this mixture being employed a half

hour before meals. I have made use of this method with pleasant results, and in cases where there has been much gastric fermentation I have employed an additional ozonized solution, glycozone, a teaspoonful immediately following meals. The glycerin which is the menstruum in this latter solution, acts as a mild stimulant to the intestinal glands, thereby accelerating the excretory functions of the tract. I have wondered if a little of the good effects from the use of a powerful static machine, which I have noticed in several cases of mental trouble in my practice, has not been due to the general effect from the inhalation of liberal quantities of ozone from the atmosphere in which the patient has been enveloped during the use of the breeze. Dr. Riggs and many other writers are enthusiastic over the use of the static current in the treatment of insanity. Dr. Gray[32] believes that the ozone from the static breeze accounts for much of its benefits in hysteria, and why not also in insanity?

Tonics are indicated and iron is often the best. Gray mentions ferratin, which I have myself employed with excellent results, and as it is easily assimilated and does not interfere with the stomach it is a favorite with me. Hypnotics should be employed with caution, although at times they are indispensable. A lengthy paper would be required to discuss them and we can only say in passing that they often do more harm than good. The sleep produced by a hypnotic is often followed by a more pronounced attack of excitation. Hypnotics should always be given cautiously, pushed vigorously if needed, but avoided when possible. Trional is one of the best hypnotics for the insane, although the large dose required, 20 to 40 grs., makes it rather expensive.

Surroundings should be such, so far as possible, as to produce quiet sleep. Sleep, that blessed restorer of faded mentality; sleep should be perfect, however. Macfarlane, speaking of the relation of wakefulness to insanity, and the states of restless sleep, says:[41] It is highly probable that the very portions of the brain which most need a state of rest are, even during sleeping quiescence of other portions, more wastefully engaged in the activity of their functions than they can be in a waking state." "Want of refreshing sleep we believe to be the frequent origin of insanity."—Buchnill and Tuke.[42]

Gynecology has suffered much in the past by the methods of many of her operators, who have sought to cure nervous and mental diseases by operations upon the female pelvic organs, and the directness of the criticisms of the neuro-alienists during the past have been of much benefit to humanity and to the real science of gynecology, as well as of neurology. Fortunately at the present time this bitterness of the past has nearly passed away, and as a result the alienist is ready to ask that the pelvic disorders of his female patients shall receive medical or surgical relief from the gynecologist, and the gynecologist no longer assumes to cure diseases of the nervous system and brain by the removal of healthy ovaries, etc.

"The clinical fact is that[43] many women require both the conservative gynecologist and the most skilled of neuro-alienists to successfully conduct their cases. A rational gynecologist that recognizes women as being possessed of other than a uterine system to account for some of her ailments is henceforth to prevail."—*Alienist and Neurologist.*

"It is gratifying to know that at last gynecology and neurology are in accord, and that henceforth women are to be treated in a rational way for their nervousness."—Macfarlane.[44]

Many cases of mental diseases are induced or exaggerated by disorders of the pelvic organs, and a relief of such disorders by surgical or other means, will often be of material benefit in restoring the mental equilibrium. In evidence upon this point I might refer to two cases of insanity seen in consultation. One had been operated upon at the time I first saw her and was convalescing, but was sent to me for a short course of static electrical treatment to round out her recovery. In the other case I advised that an operation should be done with hopes for favorable results to the mental state, which, in fact, within a month and by the time she was up after the operation, had restored the patient to nearly a normal condition.

These two cases seen last summer with Dr. H. R. Holmes and Dr. E. F. Tucker of this city, had pelvic lesions of long standing, the constant nervous irritation of which had finally ended in functional disease of the brain, but which readily gave way when normal physiologic pelvic relations were reëstablished, and appropriate general treatment had been employed.

Dr. Roswell Park[45] has said that cases of insanity which are otherwise appropriated for commitment to a lunatic asylum should have the benefits of an examination for gross surgical brain lesions such as tumors, etc., and that when deemed permissible the benefits of operative treatment should be sought.

Dr. M. Allen Starr[46] has said that a few insanity cases can be traced to traumatism, and in selected ones an operation should be done to relieve brain pressure or irritation.

In the private care of an insane patient, the responsibility is not light nor the work and worry small, but with patience, firmness, gentleness and tact, and with fair facilities for the care of such a case the result obtained is often very satisfactory.

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CHRONIC CATARRHAL GASTRITIS.

A Clinical lecture delivered in Rush Medical College.

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I desire to call your attention, this morning, to a number of patients who belong to a large class that will confront you during the whole of your active career as medical practitioners.

The first one is a young woman, 25 years of age, who had typhoid fever about a year ago. She had been employed as a shop girl for seven years previous to her illness, but had considered herself in good health till a month before the attack. She says that she was very ill for a period of five weeks and "took a lot of strong medicine." Instead of recovering her normal vigor she has remained thin and feeble. Her heart, lungs, kidneys, spleen, liver and reproductive organs appear to be healthy, but she complains of lack of appetite, epigastric distension, frequent eructation for several hours after eating and constipation of the bowels. She is listless, depressed in spirits, slightly dizzy when walking and easily put out of breath. There is anemia with a reduction of hemoglobin to 70 per cent. The pulse is small and rapid, 95 to 100 per minute. Pressure below the xiphoid cartilage is painful, and often there are transient pains between the ribs and under the left scapula. The contents of the stomach, removed with the gastric syphon about four hours after an ordinary meal, exhibit numerous traces of undigested flesh fiber; there is present a large quantity of glairy mucus, and the chemic examination indicates an excess of lactic and butyric acids, with scarcely a trace of free hydrochloric acid.

The next patient is a man, 36 years of age, thin and sharp featured. For years he has smoked and chewed excessively, but has not used alcoholic beverages. For several months he has been troubled with frequent eructations and sometimes with vomiting. The fluid that is thus evacuated is very copious in amount, and is as frothy as beer. Microscopic examination reveals the presence of sarcina ventriculi in large quantity, to say nothing of yeast fungi and numerous other microbes that are frequently present in the mouth and stomach.

The next patient is a veteran bartender. Fat and coarse-looking; his rubicund visage and blooming nose testify to the depth and vigor of his potations. His breath carries the offensive odor of chronic alcoholism; his tongue is thickly covered with a yellowish-brown coating; he is troubled with a frequent, dry, spasmodic cough. In the morning his head aches, he coughs and retches until he can expel a few mouthfuls of thick, ropy mucus mixed with saliva that was swallowed during the night. Appetite is gone; whatever is eaten becomes an excitant of pain in the epigastrium; the liver is somewhat prominent below the short ribs and is tender on pressure. The intestines are distended with gas and are alternately affected with diarrhea and constipation; the urine is scanty, high-colored and loaded with urates. Examination of the gastric juice indicates serious reduction in all the special constituents of a healthy secretion, so that in this case it consists chiefly of mucus, saliva and water.

One more patient will suffice to illustrate the principal characteristics of the disease. He is a bookkeeper. about 48 years of age; tall, thin and anxious-looking. He formerly smoked excessively and kept late hours, but for the last three years he has been the victim of painful digestion and hypochondriac depression. He suffers after eating with flushing of the face, throbbing in the temples and a sensation as if something were loose and rolling around within the cranium. He is frequently so dizzy that he can not walk without a great effort. He is confident that his case is not understood by the physicians to whom he has applied for relief and that he is the victim of an incurable disease of the brain. The heart beats irregularly and sometimes violently. Many of his worst symptoms are relieved temporarily by eructation of gas or by the passage of flatus from the bowels, which, by the way, are obstinately constipated. He is often somnolent after eating, but is correspondingly wakeful at night. In cold weather he suffers much with neuralgia in the abdominal and thoracic walls, and almost every spring and fall he is inconvenienced for several weeks by an attack of hemorrhoids. These are sometimes replaced or preceded by a severe outbreak of urticaria, covering the whole body. Latterly there have been patches of eczema in the flexures of the knees and upon the lateral surfaces of the fingers. Last summer he had a severe attack of bronchitis with asthma, which continued until October, when it disappeared during the course of a hemorrhoidal bleeding.

Such, then, are some of the cases about which you will be frequently consulted. They all possess the common characteristic of chronic gastric catarrh. This disease often follows as the sequel of an imperfectly cured acute inflammation of the stomach. It is a common consequence of the various infective diseases; it is excited by errors of diet, hearty eating, imperfect mastication, excessive indulgence in alcoholic drinks, consumption of coarse and indigestible food and the habitual use of iced water, strong tea and coffee. It accompanies local diseases of the stomach, such as round ulcer and carcinoma; it is necessarily produced by all the disorders of circulation that are occasioned by obstruction in the portal vein, liver, heart, lungs and pleural cavities.

Could we look into the stomachs of these patients we should discover a variety of pathologic changes. The pyloric extremity of the organ is the seat of the principal disorder. There the mucosa is of a gray or brownish color, which in very chronic cases is sometimes of a dark slate color. Hemorrhagic extravasations are not uncommon in the connective tissue between the glandular organs. The distinction between the different kinds of cells in the glands themselves is often destroyed and the secreting cells are swelled with cloudy contents, or have undergone atrophy from pressure and imperfect nutrition. In some of the older cases, where the patient is anemic, there is general glandular atrophy, accompanied by the development of the symptoms of pernicious ane-

mia. The deep brown or gray or slaty discoloration of the tissue is due to the accumulation of pigment deposited by the excessive extravasations and stagnations of blood in the capillary network that envelops the gastric glands. The submucous connective tissue and the muscular coat of the stomach also participate in the inflammatory process, so that their cellular elements multiply and increase the thickness of the gastric wall. The interstitial spaces are frequently loaded with small round cells and leucocytes, as if actual purulent formation were about to occur. By the increased thickening and swelling of the tissues thus produced, there is sometimes effected an actual stricture of the pylorus, leading finally to dilatation of the stomach. Occasionally, the external serous investment of the organ shares in the general disposition to inflammatory thickening, and sometimes the entire wall of the stomach becomes symmetrically hypertrophied, so as to reduce the cavity of the viscus, and to suggest the idea of a malignant change in the substance of the tissues, requiring the aid of the microscope to distinguish this chronic inflammatory hyperplasia from the growths of carcinoma. In many of the older cases of catarrh the mucous lining of the stomach presents a roughened, warty appearance that is caused by irregular development and contraction of the submucous connective tissue. In certain rare cases small cysts are formed by the occlusion of isolated glands, ducts and the accumulation of their imprisoned contents. By a sort of reversal of this process the interglandular elements occasionally multiply and protrude into the gastric cavity, forming mucous polypi, which are only important when large enough and sufficiently near to fall into the pyloric orifice of the stomach, more or less completely hindering the passage of food into the duodenum.

The recognition of a catarrhal inflammation of the stomach is seldom attended with difficulty, but it is not always easy to decide whether it is an uncomplicated affection or whether it is dependent upon some other grave disease in the thoracic viscera, in the kidneys or in the gastric wall itself. The discovery of cardiac, pulmonary, hepatic or renal disease will render it highly probable that the disorder is secondary to those causes of perverted circulation and nutrition. The existence of general hyperplastic thickening of the gastric wall may be suspected when the gastric tumor feels smooth, firm and devoid of irregularities in its shape. But in the absence of tumefaction and resistance to pressure in the epigastric region, the question will resolve itself into a threefold query: Are we dealing with a carcinoma, an ulcer, or merely a chronic catarrh of the stomach? If the patient be in early or middle life the probability of cancer is less than in advanced years. The absence of cachexia and discoloration of the skin, long duration of the malady and freedom from bloody vomit favor the diagnosis of chronic catarrh. Enlargement of the lymphatic glands in the left groin and supraclavicular space sometimes accompanies malignant disease of the stomach, but is not a constant symptom. The absence of free hydrochloric acid from the gastric juice is a very trustworthy, though not invariable, symptom in carcinoma. The presence of minute, coffee-ground particles of altered blood-clot in the gastric contents is a weighty indication in favor of cancer rather than atrophic catarrh of the stomach. In many instances it is impossible to discover before death the presence of a gastric tumor, but, in such cases, the absence of free hydrochloric acid, the existence of cachexia, lymphatic enlargement in the left groin and supraclavicular space, and, in the later stages of the disease, the occurrence of edema in the extremities—all these symptoms concurring in an elderly person would suffice to warrant the diagnosis of a latent gastric cancer. In a large proportion of the deaths occurring among old people, without definite symptoms beyond gradual wasting and exhaustion, the cause will be discovered in a latent carcinoma developed within the abdominal cavity.

The existence of an ulcer in the stomach should be inferred when the pain is more severe and narrowly circumscribed than in simple catarrh, especially if it be aggravated by eating. The disease is usually encountered among chlorotic and anemic young people, and when vomiting of blood takes place the hemorrhage is considerable, and large clots are thrown up instead of the "coffee-ground" sediment that appears in cases of cancerous bleeding.

No disease demands for its treatment more careful adaptation of means to individual necessities than chronic gastric catarrh. The daily life of the patient must be studied and all errors of hygiene, clothing, occupation and diet must be corrected. If the teeth are defective the aid of a dentist must be invoked, and the patient should be taught how to chew his food, for without thorough mastication easy digestion of the food is impossible. The food itself must be selected with a view to ease of solution in the stomach. For this reason it should resemble the food that is provided for a newly weaned infant. It must, therefore, consist chiefly of articles derived from the animal kingdom. The nursing child is a carnivorous animal by nature, and the convalescent invalid is in these respects on a level with an infant. The principal article of food should be milk—not boiled, but heated to the temperature of 160 degrees F., and drank before it is cooled, so as to secure the stimulant effect of a hot liquid. In fact, no cold drinks should be allowed, because the muscular coat of the stomach is usually, in these cases, relaxed and atonic. This lack of tone is aggravated by the introduction of cold liquids, which must, therefore, be forbidden. Occasionally you will meet with patients who do not like milk or who think that it renders them constipated. You must reassure such people by telling them, what is true, that if they will begin with a tablespoonful of milk at each meal, and will gradually increase the quantity to a pint, or more, their constipation will be cured. Only once have I failed in this way to overcome the repugnance of the patient, and that was a case of peculiar intolerance, in which the use of milk was always followed by an eruption of erythema.

The prescription of a milk diet may be supplemented with broths and soups that have been strained, cooled, skimmed free of fat and then heated again.

Ordinary vegetable food and fruits should be forbidden until recovery is complete. Rice may be allowed as a substitute for vegetables, but it must be steamed or boiled in a water-bath, so as to avoid the necessity of stirring while being cooked. In this way it can be furnished with every grain whole, separate from its fellow, yet thoroughly soft and perfectly well done. It should be eaten with salt and hot milk.

The craving for bread that is usually experienced by persons who have been placed on a restricted diet,

should be satisfied with bread that has been sliced and dried in the oven before it is toasted. It should be eaten with a little butter, hot from the toasting-fork.

The animal food should be, at first, of the tenderest possible description. Calves' brains, sweetbreads, stewed tripe, tenderloin steak, lamb chops, chicken, game birds, the soft portion of the oyster, soft-boiled eggs, boiled ham, roast beef. These must be thoroughly masticated, or, if that be difficult, reduced to a pulp or mincemeat before they are taken into the mouth.

Many patients exhibit a desire for spices, mustard and vinegar, but this is a morbid craving which should not be gratified. Alcoholic beverages are forbidden because of the local irritation and the hindrance of digestion that follows the contact of alcohol with the inflamed mucosa.

Having thus regulated the diet of the patient, in many cases it is only necessary to await the favorable result. You must not be impatient at the delay which often attends recovery. Months and months of favorable conditions are frequently needful to effect a cure. Not infrequently, however, it will be desirable to have recourse to other methods beside hygiene and diet. You should then follow the indications derived from a chemical analysis of the gastric juice. I will not delay you with a review of the tests by which you may ascertain the presence, or the absence, of free acids in the stomach, for you have already become familiar with the use of the gastric syphon; and the significance of the change in color of congo paper dipped into the filtered liquid thus obtained from the stomach is something of which I need not remind you. You have often seen the behavior of the phloroglucin-vanillin reagent when heated with gastric juice; and you are well-informed regarding these simple qualitative tests. A quantitative analysis requires more time and labor; but, fortunately, it is seldom necessary outside of the laboratory of a professional chemist or physiologist. Few busy physicians can afford the time for such an examination, and in our large cities, whenever occasion requires, an exact analysis can be easily obtained from such sources. For all clinical purposes the character of the qualitative reactions is usually sufficient as a guide to treatment.

If, then, you find that the filtered juice turns red congo paper blue, you may know that it contains free acid. If now, on heating the same juice with a few drops of the phloroglucin-vanillin reagent upon a white dish, no carmin color appear, you will have learned that free hydrochloric acid is absent and that the acidity of the liquid is due to the presence of lactic, acetic, or butyric acids, for which the appropriate tests may be employed. With a little practice you will be able to draw tolerably accurate inference regarding the relative quantity of free hydrochloric acid; but if absolute accuracy is desired you must resort to the laboratory method of qualitative analysis, as described in your handbooks of physiologic chemistry.

In cases that are marked by the absence or deficiency of free hydrochloric acid, you may administer dilute hydrochloric acid. This should be given in doses of ten drops in half a glass of water with each meal. Many physicians prescribe it in larger doses, but a little reflection will show that it is not to be regarded as a substitute for the normal gastric acid. Were such the fact, it should be given in a dose of one hundred drops, diluted with nearly a quart of water. Nor should the fact that it is often grateful to the patient betray one into the advocacy of large doses, for such patients generally experience a craving for acids and spices to an extent that is positively injurious. It is probably through its local antiseptic action, and by its diuretic effect upon the kidneys, that the medicinal acid is useful. Since the peptic ferments are usually reduced in quantity along with the free hydrochloric acid, it is well to add ten grains of pepsin to the acid draught.

When the patient complains of gaseous distention of the stomach, and of eructations indicative of fermentation, you should administer remedies to prevent such decomposition of the food. Half an hour before meals, when the organ is nearly, if not quite empty, give ten grains of salol, or the same quantity of pure salicylic acid, or a grain and a half of resorcin. The efficiency of these agents is somewhat increased by giving them in peppermint water, or in capsules with a drop or two of the oil of peppermint. When the eructations are acid from the presence of lactic, butyric or acetic acid, sodium bicarbonate in scruple doses may be associated with the other antiseptic remedies. If the bowels be constipated also, ten grains of calcined magnesia should be given with the sodium powder.

But if the stomach be dilated these measures will not suffice. It then becomes necessary to wash out the stomach every morning with the aid of the gastric syphon. Water of the temperature of 90 to 100 degrees F., to which has been added sodium bicarbonate (one or two drachms to the pint) should be run through the tube, in and out of the stomach, until it returns clear and sweet. The disinfectant remedies above mentioned may be then administered before the patient takes his first meal.

In such cases, and the majority of chronic sufferers fall into this class, there is considerable relaxation of the muscular tone of the gastric wall. The process of irrigation and disinfection of the stomach should be, therefore, followed by the administratien of bitter tonics, which arouse the contractility of the muscular fibers. Sulphate of strychnia, in doses of one-twentieth of a grain, may be given after each meal. Ten drops of tincture of nux vomica, or a half drachm of tincture of gentian, a half drachm of the fluid extract of condurango, a wineglass of the infusion of quassia, a teacupful of the infusion of camomile flowers, or the same quantity of the infusion of eupatorium perfoliatum, are useful tonic bitters. The compound tincture of cinchona and the various elixirs of calisaya bark are often prescribed with good effect; but, as a general rule all prepartions that contain alcohol should be avoided, on account of the narcotic effect of alcohol upon the secreting glands of the mucous membrane—an effect that favors the occurrence and persistence of mucous inflammation.

For the invigoration of the general nervous apparatus of the body, electricity may be employed with great advantage. General electrization with the aid of the static machine for fifteen minutes every day is useful. Or the faradic current may be applied for the same length of time daily, with one electrode upon the back of the neck, while the other is moved slowly in every direction over the epigastrium and abdominal surface. Massage given daily is another useful method for patients who are confined to the house. Daily sponge baths with cold water are indispensable

for the confirmation of nervous vigor. You must carefully instruct your patients with regard to these methods, together with exercise in the open air, for without such aid it is useless to expect a cure in chronic cases of exhaustion arising from gastric catarrh. It is also very important to procure for the patient a complete change of scene and occupation, for such people are usually much depressed and hypochondriacal. Hence the great benefit that may be derived from travel or from almost any new and interesting mode of bodily exercise.

When pain in the epigastric region is an important symptom, it sometimes becomes necessary to have recourse to various narcotics. Of these the most popular is alcohol, but, though it gives temporary relief, it always aggravates the inflammatory condition of the mucous membrane. A similar objection lies against the use of nitrate of silver, compound tincture of iodin, salts of bismuth, etc.; they must be administered with great caution and in small doses, lest they do more harm than good. Cocain, in doses of one-tenth of a grain, often affords relief, but it is a dangerous drug and the cocain habit may be thus easily acquired. Sometimes it is actually necessary to prescribe an opiate, and in such cases it is well to exhibit small doses of Dover's powder, since the ipecacuanha which it contains is a valuable stimulant to the glands of the digestive mucosa, and does in some measure obviate the tendency to constipation that is occasioned by opiates alone. For the same reason small doses of belladonna are often useful, either alone or associated with opium or morphin, but if there is constipation codein should be given the preference, since it interferes less than other opiates with intestinal persistalsis. Chloral hydrate may be given with advantage, in doses of five to ten grains, whenever required by a recurrence of pain, if there be any objection to opiated anodynes. The bowels should never be permitted to remain constipated. As laxatives, may be recommended the popular pills containing aloin, belladonna and strychnin, or the compound liquorice powder of the German pharmacopeia, or calcined magnesia, or the elixir of rhubarb and magnesia, or cascara cordial. If the stools exhibit a deficiency of bile, podophyllin may be given in small doses (one-tenth to one-fourth gr.) after meals, in connection with the alkalin laxatives that neutralize gastric hyperacidity.

Arthritic patients are often benefited by laxatives that contain sulphur, such as Squair's Compound Sulphur Tablets, or Garrod's Tablets, or the old-fashioned mixture of sulphur and cream of tartar. So great is the number of elegant laxative preparations thet everyone can have his own favorite, and it may suffice to point out the importance of giving the preference to those drugs which stimulate secretion and aid gastro-enteric peristalsis—in other words, the gently stimulating laxatives rather than the drastic purgatives. When constipation is chronic and the liver is engorged with blood and bile, a course of mineral waters is often beneficial. They should be drank in quantity sufficient to produce gentle catharsis, and may be taken preferably from half an hour to an hour before breakfast. As a general rule, hot mineral waters are better than those that are cold. When the natural spring water is cold, or when bottled waters are used, the morning draught should be followed by a cup of hot water, to raise the temperature of the stomach before eating, It is always best to drink the waters at their native source, in order to experience the good effects of rest, change of environment, etc., which are associated with a vacation at the springs; but when such advantages are impossible, much good can be obtained from the bottled waters that can be drank at home. In cases of simple gastric catarrh, the waters that contain a predominating quantity of magnesian salts, or chlorid of sodium, or of carbonate of sodium, are sufficient. When the tongue is thickly coated and yellow, indicating hepatic disorder, the waters that are richly charged with sulphate of sodium are most efficacious. The waters of Saratoga, of the deep artesian wells in eastern Michigan, when largely diluted, and the hot saline springs in Colorado and the other mountainous regions of the continent are all valuable. Of the ordinary bottled waters the Saratoga, Hunyadi Janos, Friedrichshall, Racoczy and Rubinat waters are extensively used. For arthritic subjects the sulphurous waters may be recommended. Of these the springs at Richfield or among the Alleghany mountains and in Kentucky and Tennessee, are among the most noted. The hot springs of Arkansas possess little or no value beyond the quality of heat which they derive from the rocks through which they flow.

When prescribing the use of mineral waters or their artificial substitutes — solutions of magnesian and sodic salts — care should be taken to caution the patient against their too persistent use. Few can drink the stronger waters longer than five or six weeks without exciting an inflammation of the gastro-intestinal mucosa that may be very difficult to heal. It is better to use them for a month or six weeks at the springs and then to abstain for a number of weeks, or to have recourse, if needed, to the mild vegetable laxatives. It is always important in this, as in all other protracted courses of medication, to provide for occasional intermissions, in order to prevent both local irritation and the establishment of tolerance of the drug that is employed.

ANTITOXIN AND DIPHTHERIA.

Read before the Harrisburg Academy of Medicine, Dec. 29, 1896.

BY W. H. SEIBERT, M.D.
STEELTON, PA.

At a meeting held here about a year ago I read a paper entitled "Diphtheria," in which the subject was treated in its entirety and some reference was made to the use of antitoxin serum.

The paper which I present tonight deals chiefly with antitoxin and some reference is made to diphtheria as seems to be proper or relevant to the subject.

Careful observations were made during this year in the treatment of all cases occurring in my practice, and the results will be presented briefly, together with statistics of our town so far as applies to results in the treatment with and without the serum. In addition, there will be presented statistics of many of the largest cities of the United States relating to frequency of the disease, comparative mortality, mortality rates of the pre-antitoxin years as compared with the mortality of the present year.

In referring to the history of diphtheria it may be said that it comprises three main periods, the first of which dates from the earliest times of medical history to the sixteenth century. In this period various descriptions are given of the different epidemics of the disease by Hippocrates, Aretæus, Galen and various other writers. The second period extends from

the sixteenth century to the latter part of the present century, and in this is observed a more definite and scientific description as to details and results as well as a marked advancement in the clinical observations of the disease. An excellent description is given by Baillou, a noted French physician of the time, and after him Brettoneau distinguished himself by his studies and gave the disease a distinctive place in the nomenclature of diseases. Later Trousseau and numerous writers of various countries add to the researches and history of the disease, but little to the prophylaxis and treatment. In the latter part of this period it was believed by some writers that a particular germ was the cause of the disease and various theories were advanced to explain its action. This was the semi-scientific period and led up to the third or present period, which may aptly be called the scientific or bacteriologic period of diphtheria. Here we have after Pasteur's brilliant discoveries the magnificent researches and experiments of Koch and his followers, arriving at conclusions which definitely identify the cause of diphtheria. The bacillus being now discovered and identified, the field of discovery was further advanced by Behring, who, by long and patient investigation and experiment, finally reported his discovery of antitoxic serum about April, 1893. From this time on, various reports were made of its use and value, and within two years it was used in many places in this country, and several laboratories or manufactories produced a serum on the same principle and of the same value as that produced in Germany.

The method of manufacturing the serum is as follows: A colony of the bacilli derived from a virulent culture is transferred into bouillon which is placed in a favorable surrounding until numerous bacilli are grown or developed, by which a large quantity of toxin is produced, after which the bacilli are destroyed by the addition of a chemical. The bacilli are then removed by a process of filtration. This fluid or serum is of unknown strength, and in order to establish its strength or toxicity experiments are made by injections into guineapigs and in this manner is determined its relative strength to quantity, or the basis of antitoxin unit to cubic centimeter. The establishing of the unit is after Behring's method and I believe all manufacturers follow it. An antitoxin unit signifies one cubic centimeter of the quantity of the fluid or serum which is necessary to protect a guineapig from ten times the least lethal quantity on injection. A small quantity, about a cubic centimeter, of the above fluid is injected into the animal—the horse being preferred on account of tractability and capacity—and at repeated intervals increasing quantities are injected until the animal is thoroughly immunized, requiring about three months. The animal is now bled, the serum removed and properly preserved by the addition of a chemical, then tested to adapt its strength and finally bottled and labled. The label explains the number of c.c. and the number of antitoxin units, and as the serum comes in different strengths, it is always preferable to speak of and designate it by the number of antitoxin units instead of the c.c. It is desirable to use the more concentrated preparations, as they are more readily injected, more quickly absorbed, cause less pain and likely contain less chemical as preservative. The serum is administered hypodermatically in a place where the skin is loose, as on the side of the chest, back, arm or leg. Antiseptic precautions must be observed and the syringe must be thoroughly sterilized before and after every injection. The time to administer the serum in any given case is at the earliest possible time after the clinical diagnosis, and doubtful cases should also be injected, whether or not an epidemic exists. The quantity of serum to be used depends somewhat upon the age and weight of the patient and on the type or form and stage of the disease. In a mild case under 2 years of age, if seen within the twenty-fourth hour of the disease, 500 antitoxin units should be injected at once and the same should be repeated every twelve to twenty-four hours until improvement results. If the case is very severe or when seen late, or of the laryngeal type, urgency demands 1,000 to 1,500 units at once and to be repeated in twenty-four or even twelve hours, if no improvement is manifested. In children over 2 years of age, when the case is severe or advanced, 1,000 to 1,500 units should be injected at once and followed every twelve to twenty-four hours until the progress of the disease is arrested. I saw a child of 7 years in the seventy-second hour of the disease, being a most severe laryngeal case—one of membranous croup—in which there seemed absolutely no hope of recovery until 4,000 units were injected within thirty hours, after which the membrane of the larynx and bronchi became softened, loosened and came away in large sections, and recovery except for paralysis which was persistent, was uninterrupted. Experience and urgency demand that double the usual quantity be given in laryngeal cases. For immunizing or protecting against an attack of the disease from one-fourth to one-half the ordinary quantity is recommended. To avoid pain during injection a 5 per cent. solution of carbolic acid rubbed briskly on the skin is useful. I have found the chlorid of ethyl spray quite satisfactory and efficient. The pain, however, is usually slight and it is only in exceptional cases that a local anesthetic is required. In a few cases I observed a diffuse redness around and beyond the site of injection and also in one case an urticaria that might be attributed to the injection, but these disappeared within twenty-four hours without treatment. As to the danger from injections of the serum, I have seen no untoward or harmful effects, and when it is considered that now about a million injections have been made, with only a few fatal results, all of which are indefinitely accounted for, and in view of the good accomplished, it is scarcely worth while to hesitate on this accouut. As to the method of cure it may be said that the serum acts by arresting the growth of the bacilli, or that it counteracts the progress of the disease. As to its clinical effect, I observed that its immediate action was, in over 75 per cent. of my cases, to lower the temperature one to two degrees in twenty-four hours and the pulse rate in the same proportion, and the progress of the disease seemed arrested. In a few of the cases the temperature and pulse rose higher immediately after the injection but within the next twenty-four hours they gradually receded toward the normal. Now as to the practical value of the serum, there seem to be but few persons who have made a fair and thorough trial of it but what they are ready to testify in its favor. From all sections, in private practice, hospitals, cities all over the United States, Europe, Asia and Africa, comes the most favorable testimony. Indeed, it would seem but necessary to call our attention to the reluctance with which we formerly gave our hopeless opinions

in the laryngeal or so-called membranous croup cases, and yet today we approach these cases quite hopefully.

During the present year, 1896, Steelton, with a population of 10,000, was invaded by an epidemic of diphtheria, mainly confined to a section four squares wide and same length, this being drained by large sewers for surface drainage only. Statistics have been accurately kept by the board of health. During the year thirty-two cases came under my treatment. The local treatment of these cases consisted in using cleansing and antiseptic applications of hydrogen dioxid followed with a lotion of mercuric chlorid 0.2 to 0.1 per cent. in equal parts of tincture ferri chlorid and listerin, applied on cotton to the affected parts in the pharynx. Hydrogen dioxid and listerin were injected freely into the nasal passages and in some a one-fiftieth per cent. solution of mercuric chlorid in glycerin and water was injected thoroughly. Atomization and inhalation of same remedies were employed for nasal and laryngeal cases. These remedies were applied every two to four hours, and in addition, where possible, gargles were used frequently. The constitutional treatment consisted of tincture ferri chlorid, mercuric chlorid or both combined, calomel 1 to 2 centigrams hourly as to age, being preferred in the laryngeal cases, as it was deemed more stimulating to the local secretions. Quinin was given early and frequently throughout the attacks and later through convalescence strychnin was used. Proper attention was given to hygiene, and free ventilation was insisted on and persistent nourishment was enforced from the beginning of every case. Of these thirty-two cases twelve were treated without antitoxic serum and twenty were treated with the serum, and in all other respects they were treated alike, so that the antitoxin treatment was supplementary. Of these cases the former or those in which antitoxin was not used were deemed the milder and it was thought possible to cure them without its use. Of these twelve cases three died, two of extreme weakness and one suddenly of cardiac paralysis when it was presumably convalescent. The average active treatment of these cases lasted twelve days and the mortality was 25 per cent. Of the twenty cases treated with antitoxin, one died, and this within six hours of its use, being a hopeless case as it was also in the fortieth hour of the attack when first seen and toxemia was extreme. The average active treatment of the cases treated with the antitoxin was seven days. Of these twenty cases five were laryngeal and two of these as severe cases of laryngeal stenosis or so-called membranous croup as I ever encountered, all of which recovered. Albumin appeared less frequently in the serum cases than in those treated without it, and paralysis followed somewhat less also. Altogether there were 115 cases in Steelton in the year, being a proportion of 1,150 cases per 100,000 population, and the number of deaths was 16, being 160 per 100,000. Of these cases twenty-three were treated without serum, of which ten died, being a mortality of 43 per cent. Ninety-two cases were treated with the serum and six died, being a mortality of about 7 per cent. or a gain over the other series of over 80 per cent. In addition to the above I cite from the report of the American Pediatric Society, which has a report of 1,256 laryngeal or membranous croup cases treated with antitoxin. In over half of these recovery resulted without operation and of the 533 cases operated on the mortality was 26 per cent., or only about one-half of former mortality. I have also reports from many of the largest cities in the United States arranged in tables showing: 1. The relative number of cases per 100,000 of population. 2. The relative mortality per 100,000. 3. The mortality rate for 1891 to 1896. 4. The mortality for 1896. The source of this information is from the local boards of health and it is gratifying that statistics are now so generally kept and available, though in a number of important cities the statistics are too incomplete to be fairly tabulated and for this reason had to be omitted. The method of calculation is by taking the populations of 1890 and end of 1896 and averaging by the number of years and the number of cases, and the results are obtained alike and fairly in all. The percentages are stated in whole numbers.

Cities.	The average number of cases per 100,000 for the years 1891-1896.	The average number of deaths per 100,000 for the years 1891-1896.	Average mortality per cent. for the years 1891-1895.	Mortality per cent. for the year 1896.
New York	414	96	25	15
Philadelphia	292	86	30	27
Brooklyn	306	96	34	22
St. Louis	231	54	26	15
Cleveland	174	49	29	25
Buffalo	205	57	29	22
San Francisco	108	24	24	16
New Orleans	121	33	28	14
Pittsburgh	267	70	27	20
Detriot	369	57	16	14
Milwaukee	407	120	31	22
Washington	161	52	34	23
Newark	395	98	30	18
Jersey City	374	92	25	23
Louisville	168	38	26	20
Omaha	153	56	39	20
Rochester	268	89	36	20
Denver	231	65	31	9
Indianapolis	298	71	24	19
Albany	142	74	58	28
Columbus	302	57	20	11
Paterson	385	112	30	28
Toledo	242	53	22	14
Richmond	79	27	36	16
Scranton	156	44	28	26
Lowell	105	45	42	42
Fall River	74	25	58	24
Atlanta	33	15	35	30
Cambridge	324	64	23	11
Wilmington	120	43	30	20
Dayton	370	80	22	18
Grand Rapids	249	52	20	15
Reading	140	42	30	30
Camden	432	106	25	22
Trenton	488	75	15	20
Lynn	273	59	27	14
Los Angeles	158	31	23	9
Hoboken	407	83	21	17
Binghamton	192	58	38	14
Duluth	208	35	18	11
Davenport	305	85	28	9
Charleston	25	6	25	25
Harrisburg	275	55	20	20

The average number of persons affected yearly per 100,000 in all these cities of ten million population for the years 1891–1896 is 242 and the average yearly number of deaths is 61. The average yearly case mortality for the years 1891–95 is 28 per cent., and for the year 1896 is 19 per cent., being a gain of 32 per cent over the average of the previous five years, and a gain representing nearly 2,000 lives. Now if the entire population of the United States were affected in the same ratio and the mortality the same, it would equal the saving of 14,000 lives annually. These comparisons could be extended, but so far, I think the main object is accomplished; that of demonstrating from widely extended, disinterested and impartial statistics—the local health boards—that during the present year in which the antitoxic serum has been pretty generally used, the mortality rate is 32 per cent. less than the yearly average of the preceding

five years. These results are fairly attributable to the improved treatment by the efficient and more general use of antitoxin. There are many useful statistics at hand by various authors, but I preferred this comparison by the larger cities of the United States, and if the cities from year to year will keep accurate statistics or complete records what a useful field would here exist for exact observation of the results of this or any other method of treatment.

In the use of antitoxin it should be remembered that it is not a panacea or a specific in the sense that no other remedies need be used, but that it is to be used with the usual other remedies or treatment. Beside, a number of the cases are mixed or multiple infections, that is, the streptococcus and staphylococcus germs are also present, and the diphtheria antitoxic serum has no effect on these germs. In addition to the serum and general treatment efficient local treatment no doubt limits the infecting or septic area and since we recognize that diphtheria is caused by a specific germ or bacillus which is lodged or implanted on the mucous membrane of the nose, pharynx or larynx and that it produces an erosion from which is absorbed its toxin, and even the bacilli are absorbed and enter the blood and the various organs of the body. Again, when we recall the quite large area of the nasal tract and also that in autopsies the bacilli have been found in the frontal, ethmoidal and sphenoidal sinuses as well as in the antrum, it seems but reasonable that local treatment is in most cases, if not in all, indispensable. So that the best results are to be expected by using the serum combined with local and constitutional treatment. It is confidently urged that the profession adopt its use universally and the mortality rate will be materially decreased from year to year, and as a result the yearly number of cases must decrease instead of increase as has been the case in most cities. Promptness in using the serum early is a very important factor and it is suggested that it is not necessary to wait on a bacteriologic diagnosis, but to act promptly in all cases on a clinical diagnosis and thus much valuable time is gained both in treatment and prophylaxis.

Much might be said of the utility of bacteriologic work and of the propriety of stations throughout the commonwealth from which rapid and free examinations should be made by the State. Such a system would be of incalculable benefit in the management of diphtheria and the various other germ diseases which are now so rapidly claiming our attention as to this new and apparently successful method of serum therapy. The utility of bacteriologic work seems to be greatest in determining the sporadic and doubtful cases which occur at the beginning of an epidemic and in isolated districts so as to prevent by quarantine and prompt treatment the spread of the disease, for it is apparent the more cases the more bacilli and hence the greater the danger of the spread of the disease. The prophylaxis of diphtheria and other contagious diseases could be materially advanced if communities were properly informed and protected by laws forbidding or limiting expectoration in public places or where people gather or come in contact as well as the disinfection of vessels used for expectoration. And if all cases of diphtheria were strictly isolated and treated with the serum it is reasonable to hope that diphtheria will be eradicated or at least limited to a small per cent. of the cases which now annually occur in all cities and in all countries.

THE USE OF ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

Read before the Detroit Academy of Medicine, Jan. 12, 1897.

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DETROIT, MICH.

The fear and misgiving which attended the administration of the anti-diphtheritic serum at the outset is no longer justified. From every part of the world come numerous clinical reports attesting the value of the new treatment. Its untoward symptoms have been promptly and carefully studied, so that with proper care it is a safe and efficient remedy for the treatment of diphtheria.

In September, 1894, I treated my first case of diphtheria with anti-diphtheritic serum, a bottle of which I had obtained from Aronson's laboratory in Berlin. The case had been a severe one; the serum was used after secondary infection had developed and the case seemed hopeless. The membrane had extended where it would and could not be checked. The temperature stood at 103 degrees and pulse at 120.

The serum was injected with all due precaution. The temperature continued to rise for several hours, showing that diphtheritic intoxication was not materially checked, but about six hours after the injection the fever began to fall; in twenty-four hours after the injection the temperature stood at 98 5 degrees, the membrane had grown white and the edges were loosening, and by thirty-six hours after the injection all of the membrane had been expectorated. The disease was not only controlled, but enough anti-diphtheritic serum had been introduced to counteract the toxic effects of the existing diphtheria, and the result seemed almost miraculous.

Since then, my faith in this new therapeutic agent has increased greatly. In the fall of 1895 I had from thirty-six to forty cases, and during the last three months of 1896, eighty cases were treated with only two deaths.

It should be the duty of every practitioner to place the antitoxin at the head of all therapeutic measures that he may know of for the cure of diphtheria, for it proves its efficacy whenever it is administered early, and in sufficient quantities to neutralize the poison which it is to antagonize.

An early diagnosis can not always be made from the clinical symptoms; frequently a tonsil may be covered with spots like a follicular tonsillitis, and one of the spots be true diphtheria and the case treated for an ordinary tonsillitis, when in reality a true case of diphtheria is developing in a medium that will prove a regular hot-bed for the development of the Klebs-Löffler bacilli.

All cases suffering from sore throat should receive the benefit of the doubt as to whether the case be one of simple or diphtheritic sore throat by a bacteriologic examination and the earlier such an examination is made, the greater the chance of saving our patient.

Our Detroit Board of Health has furnished test tubes for the making of cultures from suspected sore throats, and I believe that if they were used more often, the epidemics in our city would be reduced.

The dose to be administered at first is a question of importance. I think it is best to overdose at first, than to give a lesser curative serum. The bulk is the same, whether 500, 1000, 1500 or 2000 units are used,

and as the inserting of the needle is always painful, it is better to give a full dose early, rather than to have to repeat the injection.

The amount to be used depends upon the length of time the patient has been sick, the extent over which the membrane has spread and the thickness of the membrane.

As to the antitoxin to use, having tried five or six different makes in the past two years, I have found that which has been manufactured by Parke, Davis & Co., most efficacious. Apart from the potency of this brand, I must commend the ingenious manner in which it is marketed, viz., in hermetically sealed glass bulbs, which exclude the air and keep the serum strictly aseptic.

From the charts I exhibit, you will see that when a dose was given of sufficient strength, the action on the toxin producing the constitutional symptoms, namely, fever, high pulse and great prostration, was prompt and effective; the fever being reduced rapidly. Laryngeal cases recovered slowly, but showed marked improvement after each injection.

Strange as it may seem, the serum varies in strength, different manufacturers furnishing the same number of units in various bulks, and many brands containing a less number of curative units than claimed.[1] Such brands are to be avoided. The most concentrated serum is, I think, the best to use, as there are rarely any bad results from its injection. It has been noted in several cases that an erythema or urticaria develops around the point of injection. None of the severe symptoms as noted by some have been noticed by me, though several hundred injections have been given under my direction. Several have had rheumatic pains, but no other symptoms showed themselves, not even an abscess, and their absence was probably due to the great care used in the manufacture of the serum administered.

During the past year there have been 111 cases of diphtheria in Harper Hospital, five of which died. Three of these entered moribund, and one man had been sick six days before entering the hospital and the action of the toxins upon his heart centers was so great that he died from heart failure, the result of the diphtheritic poison. Some cases where large doses of antitoxin were used close together showed subnormal temperature for several days. There have been six tracheotomies and twelve intubations. There have been many laryngeal cases that were treated successfully with merely antitoxin and inhalations. The youngest case was a child of five weeks, bottle-fed. During the months of October, November and December there were over seventy cases in the hospital under my care, and six in private practice.

The nurses who were on duty were at first immunized with 250 units, later with 500 units, and still later with 1,000 units, as the prophylactic effect was better. The nurses were constantly, except when off duty, exposed in an atmosphere saturated with diphtheria. Two nurses took the disease after having been immunized, and one took diphtheria after nursing a man who started with a "follicular tonsillitis," but which later turned to a true diphtheria. All the nurses recovered. When the disease was taken by those who had been immunized the attacks were mild.

Too much praise can not be given to the corps of nurses who cared for the patients day and night, with promptness, cheerfulness and efficient vigilance. Had it not been for their splendid work, many of the patients would have succumbed to the disease.

In all the hospital cases the patients had been sick from two to three days before entering, hence it was necessary to use the strongest antitoxin serum early and repeat the dose in six, twelve or twenty-four hours, if the growth of the membrane was not checked or stenosis promptly relieved.

We have several standing orders that patients receive as soon as they reach the hospital, for we believe in using some medicines that proved useful before the discovery of the antitoxin.

An examination of throat is made to see the extent and location of the membrane.

1. A hypodermic of antitoxin 1500 or 1000 units.
2. A liberal dose of calomel if tongue was coated and bowels constipated.
3. An ice collar, worn until all glandular enlargement disappears.
4. A gargle every two hours of

Hydrogen peroxid	2 parts.
Euthymol	2 parts.
Lime water	4 parts.

5. Membrane to be touched for 10 or 15 seconds with Loeffler solution, every three hours. This is composed of:

Menthol	10 gm.
Toluene q. s. ad	36 c.c.
Creolin	2 c.c.
Iron chlorid sol	4 c.c.
Alcohol q. s. ad	100 c.c.

This dissolves the membrane and destroys the Loeffler bacilli *in situ*.

Should the patient be needing a stimulant, the calomel was omitted and whisky or strychnin administered. Other symptoms were met by appropriate means as soon as they arose.

Cases of laryngeal diphtheria were treated with steam inhalations after being injected. Children with pneumonia complicating diphtheria were put in the oil silk jackets and kept in an atmosphere of comp. tr. benzoin and other non-irritant inhalations.

The frequency of dose of the antitoxin depends upon the spreading of the membrane and the condition of the temperature.

How soon is a patient to be discharged as cured?—I have had a culture taken from throats each day for three or four days until all Klebs-Loeffler bacilli disappear before I pronounce the cases well enough to mingle with others, for it has been known that the Klebs-Loeffler bacilli may be carried in the throat of a person without danger to himself, and yet be the source of great danger to others.

As a rule the cultures taken after all membrane has disappeared from diphtheritic throats prove negative after three or four days.

Just how dangerous the diphtheritic bacilli are after the use of the antitoxin, remains for the bacteriologist to determine. Where antitoxin has not been used, I have known reinfection to occur ten or fourteen days after primary attack.

Diphtheritic paralysis developed only slightly in two cases, but more severely in another case where all the vital centers had suffered from previous disease. Albuminuria was noted in a few cases, but as the disease predisposes to renal disease the antitoxin could not be held responsible; all these cases cleared up as soon as the poison was neutralized. No secondary infections occurred after the disease was once under control.

[1] Medical News Report.

ASTHENOPIA NOT DUE TO REFRACTIVE ERRORS.

Read at the Meeting of the Chicago Ophthalmological and Otological Society, Jan. 12, 1897.

BY HENRY GRADLE, M.D.
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The inability to use apparently healthy eyes for near work, without increasing discomfort or pain, is usually caused by refractive errors, or insufficiency of accommodation. In a series of 500 patients with asthenopic complaints taken consecutively from my records, the symptoms were caused by hypermetropia, astigmatism or presbyopia in 75 to 80 per cent. In 20 to 25 per cent. the asthenopia could not be accounted for in this manner, for either the optic conditions were perfect or, if not, their correction gave no relief.

Some of the factors which lead to asthenopia, in the instances not dependent upon optic faults, are suggested by a study of the refractive cases, if we consider them as patients and not merely as the possessors of optically imperfect eyes.

The importance of refractive errors varies according to whether we study them either in the patients of our office practice or in the population at large, that is to say, in school and military examinations, or in people whom we treat for other than refractive anomalies. Instructive, too, is the study of presbyopes. From such material it can be learned that many people can pass through life up to middle age without being annoyed by an existing hypermetropia or astigmatism of 1, or perhaps even 1.5 dioptrics, and that when the error exceeds this amount, or the accommodation begins to decline with age, the normal and typical annoyance upon using the eyes is a feeling of strain or fatigue bordering on pain. In office practice, on the other hand, we see patients annoyed by errors far below this limit and complaining often, not merely of fatigue, but of various forms of pain, headache and even distant nervous symptoms. In a previous discussion of this subject ("The Neurological Aspect of Asthenopia," *New York Medical Record*, Dec. 7, 1895) I have tried to emphasize these differences, by terming *normal* asthenopia that amount of fatigue and discomfort which is inevitably produced by a refractive error of sufficient degree, while I called *exaggerated* asthenopia the excessive eye annoyance which asthenopia leads to only in certain patients.

Observation shows that on the whole, those persons who complain only of normal asthenopia or who tolerate low errors without disturbance, represent the healthier part of the community. On the other hand, persons who suffer great annoyance in consequence of an unproportionately low degree of asthenopia, show often in many other ways that their nervous system is not in perfect condition. In some we get a decided history of inherited nervous instability. In others the past history, or perhaps only the subsequent observation, reveals other functional neuroses. Sometimes enfeebling infectious diseases have undermined the resisting power. Anemia or impaired digestion are also not uncommon precedents in exaggerated asthenopia. Finally faulty habits, improper hygiene, and especially insufficient muscular work, are very often factors which lead to an excessive reaction from eye-strain. The rôle of these various pernicious influences is all the more striking in those instances in which a moderate refractive error had been borne without inconvenience until a breakdown occurs on account of such additional factors, while when these influences can be eliminated the patient may again be able to dispense with his correcting glasses. It is true there are cases, too, in which we can not elicit any other reason why a low error should cause such disproportionate discomfort, or why the eye strain should lead to other nervous symptoms. But is it not most logical to admit that there must be some reason why that patient's nervous system reacts so much more than that of average healthy persons, even if we can not detect it? In other words, I hold that normal asthenopia is the natural discomfort associated with a refractive anomaly, while the man with exaggerated asthenopia is indeed a patient who has, beside his optic defect, a deficient nervous system. It is, however, self-evident that no sharp line can be drawn between normal and exaggerated asthenopia.

The same reasoning holds good for asthenopia dependent upon other causes beside optic defects. In about 3 per cent. of asthenopic patients I find the ocular anomaly to be slight chronic inflammation of the conjunctiva or the edge of the lid. It is self-evident that a patient with pronounced conjunctivitis can not use his eyes without increasing discomfort, and it would be illogical and superfluous to describe his condition as asthenopia. If, however, decided asthenopic symptoms are complained of and we find merely a squamous blepharitis, or a minimal degree of chronic conjunctivitis so slight as to escape any but expert observation, and furthermore, if the annoyance ceases after the cure of the inflammatory condition, we can not but call it a case of exaggerated asthenopia. That is to say, the individual, on account of some peculiarity of his nervous system, reacts with asthenopia to an irritation which most persons can tolerate with scarcely any discomfort.

The symptoms of asthenopia dependent upon conjunctival irritation differ in many instances from the characteristic fatigue and ache due to ametropia. The annoyance is usually described as burning or watering, which may lead to headache in neurotic persons.

Occasionally asthenopia has a multiple origin. It may depend upon low ametropia in conjunction with blepharitis or chronic conjunctivitis and will in such instances require attention to both factors.

As another ocular lesion which bears some relation to asthenopia, I wish to refer to a certain anomaly of the retinal pigment epithelium. I do so with some reserve because I probably stand isolated in the interpretation and because the interpretation of such clinical facts is extremely difficult or uncertain. I refer now to certain slight changes in the appearance of the fundus which I have often met with in cases of exaggerated asthenopia. I can not give exact statistics because I have only paid attention to the subject in the last five years, while the statistics I quoted were partly from the time previously and partly from my records of last year. I should say, however, that I have observed this condition at least fifty to seventy-five times.

The normal fundus is, as you know, homogeneous in appearance. In some subjects, however, we find a condition which may be described as graining, or salt and pepper appearance. With it there may be in addition partial atrophy of the pigment epithelium exposing the choroidal vessels. The special lesion to which I refer seems to depend upon irregular distribution of the pigment epithelium, and we see an appearance which would be produced by the mixing

of fine black and white powders with grains so minute that the eye can not discern the separate grains. Sometimes a few of the grains are coarse and discernible and white and black specks may be recognized with the ophthalmoscope. This condition is clearly more than a structural peculiarity. I judge so for the reason that when I encountered it in adults it was in connection with actual lesions of the fundus as, for instance, in conjunction with localized foci of choroiditis and particularly during the retrogressive stage of neuritis. Otherwise I have hardly met with it in people over 25 years of age, but only in children and young people. This appearance is usually most pronounced in the lower nasal quadrant of the retina, but it may extend over the entire periphery and may even reach the macular area. I know of no reference to it in literature except the occasional use by writers of the term "woolly fundus," or "strippling." (*Archives of Ophthalmology.*) It is not identical with Gould's ametropic choroiditis.

With few exceptions the children in whom I found this appearance of the fundus were asthenopic. In some instances the asthenopia depended entirely upon refractive errors and was corrected definitely and permanently by glasses, but even in those cases it was always the exaggerated form of asthenopia. There was great complaint in proportion to the degree of error actually found. In other instances, however, there was no refractive error measurable, or if present its correction gave no benefit. These individuals were markedly neurotic and the neurasthenic condition might be taken to account as a predisposing cause for the asthenopia, but still the coincidence of this peculiar irregular distribution of the pigment epithelium in connection with such exaggerated asthenopic complaints is worthy of note and I would like to call the attention of the members to it. We can not influence the fundus condition directly by treatment, and hence can not prove absolutely its significance. It was generally accompanied in my cases by slightly lowered vision, about two-thirds or one-half, which could not be fully raised by glasses. It never led to any greater disturbance of vision, but it gave, in many cases, marked discomfort in the form of burning or smarting, often leading to headaches. There was commonly some sensitiveness to light, and the symptoms were most marked in the morning on rising. Although it was asthenopia in the sense that the discomfort increased on using the eyes, still the discomfort was ordinarily not quite absent and generally most pronounced on rising.

The only therapeutic measures that gave me any satisfaction whatsoever were absolute rest of the eyes and dark glasses. Personally, I have seen very little benefit from the dark glasses in other forms of asthenopia. But in this form the use of dark glasses has proven the most satisfactory of any of the measures employed.

This finishes all I can say about ocular causes of asthenopia, except that I might refer to the subject of muscular anomalies. That subject I trust, however, will be taken up by other members this evening who have had more experience than I have, for I have not seen much to convince me of the importance of muscular anomalies as a cause of asthenopia. My own impression has been that the number of cases in which muscular anomalies are associated with asthenopia is not large, if we analyze the cases properly, and that in the majority of instances the muscular anomalies are not dependent upon anatomic peculiarities of the muscles, but are of neurotic origin, rather associated with the asthenopia than the cause of it. However, I do not wish to deny there are cases of muscular asthenopia, only I have never happened to see many of them in my own experience.

If we seek for other disturbances in the system which may provoke asthenopia I know of two organs which play a considerable role in its production. These are the mucous membrane of the upper respiratory organs and the stomach. Various German rhinologists (Gruenwald) have referred to the existence of asthenopia in connection with suppuration of the different accessory sinuses. Some of these observations are suggestive rather than convincing. Personally, I have not had any definite experience in this connection. The cases of suppuration of the accessory sinuses seen by me which had ocular symptoms, were more in the nature of a steady discomfort than a distinct asthenopic complaint. I have, however, seen quite a number of instances, and my records place them at about 3 per cent. of all my observations upon asthenopia in which the nose played a greater or lesser role in the production of ordinary asthenopic symptoms. Most of the cases were of the nature of a chronic catarrhal rhinitis, with secondary hypertrophies, or, with stenosis due to deviations of or excrescences upon the septum. In placing the figure at 3 per cent. I must admit that it is not based entirely upon my therapeutic records. Not all of my patients were willing to undergo the tedious treatment that nasal stenosis would require, while others were not observed long enough. But in accepting that figure for my statistics I did so on the basis of the therapeutic successes in a smaller number of cases in which the probability of relationship was raised to certainty by the results of the treatment. At any rate, I can refer to a reasonable number of instances where there was heaviness and discomfort in the eyes, burning or a dull feeling upon using the eyes, and where the removal of the spurs from the septum or the evulsion of mucous membrane of the turbinals led to permanent cessation of the symptoms. In some cases glasses had been prescribed either by myself or others. But in the convincing observations these glasses which had only been of moderate benefit could be discarded after the nasal treatment. In none did the glasses give entire satisfaction before the nasal treatment.

Another naso-pharyngeal condition to which I would attribute an occasional influence in the production of asthenopia is enlargement of the pharyngeal tonsil, the condition usually termed adenoid vegetations. I have seen at least twelve to fifteen cases in which children complained of decided asthenopia, where they could not use the eyes without discomfort, and where glasses given by myself or others did not prove wholly satisfactory, although the correction of the ametropia was not entirely useless. In these cases the removal of the adenoids gave definite results, namely, complete relief from the previous asthenopic symptoms. In all these instances, however, we can not exclude more or less instability of the nervous system. Indeed, I am not ready to admit that *exaggerated* asthenopia of any kind, or from any cause, can occur in a person whose nervous system is perfectly up to par. There are all possible degrees between normal asthenopia and the exaggerated form, because under the present conditions of our civiliza-

tion there are only relatively few persons whose nervous system is trained from youth and reared by proper inheritance to the strictly normal physiologic condition.

As regards the influence of the stomach upon asthenopia I can not quote any statistics. My records are not detailed enough in all instances. Moreover, I am not sure that stomach disturbances alone would ever account entirely for asthenopic complaints. But I have observed quite a fair number of instances in which asthenopia associated with refractive errors, or without any measurable error of refraction, could not be relieved by any means whatsoever until the patient's stomach was cured of the condition in which had been, presumably a chronic gastritis. These individuals showed a coated or furred tongue, complained decidedly of distress of the stomach, had gaseous eructations, bloating, or general discomfort after meals, or, at least, after any indiscretion of diet. It is in these cases, as a rule, that we can not get relief until we place the patient upon rational diet, and prescribe sufficient outdoor exercise. On the other hand, by advising such measures a fair number of dyspeptics can get rid entirely of their asthenopic symptoms and may be able to dispense with glasses, which previously had been a necessity, although without ever having obtained full satisfaction from the glasses alone. This perhaps is as much as I can say definitely upon the subject of asthenopia not dependent upon refractive errors from the basis of my own experience.

Unfortunately, our therapeutic influence upon the nervous system which is at fault in such cases, is at the best a slow and often imperfect one. We can not correct hereditary influences. The patients are not always able to change their faulty habits. The pernicious after-effects of infectious diseases, like typhoid fever or measles, as a rule, are not amenable to treatment, only to time. But the condition of anemia which underlies this trouble can quite often be benefited by the administration of iron, and iron is a valuable adjuvant in the treatment of asthenopia if anemia be present at the time.

I might add a few words about the relation of some of the vague forms of asthenopia to hysteria. I was led to these views by observing the relatively acute onset of asthenopia in some instances. We all know that, as a rule, asthenopic patients can not state exactly when their annoyance began. In a small minority of instances, however, a time can be fixed and it coincides with some pernicious influence active at the time, for instance, the sickness of a child necessitating long waking hours of the mother, or overwork in the preparation for examination by students. Again, in other cases a change of boarding house with poor diet may have led to dyspepsia, while in a few of my observations the occurrence of acute coryza preceded the ocular disturbance. In such cases of asthenopia not dependent upon refractive anomalies *with relatively acute onset* I have had good results, provided they had not lasted long, by removing these pernicious factors, insisting upon proper hygiene, proper muscular exercise and absolute rest, if possible, for the eyes. By strictly carrying out this treatment many of these patients were cured within a number of weeks. On the other hand, if we get these cases after they have persisted for months, if they have been insufficiently treated, or have not sought medical advice at the proper time, we all know how very persistent such asthenopic complaints may be, even though the original cause has ceased to act. The persistence of the asthenopia when the starting cause is a matter of the past, might be logically attributed to hysteria. After all, perhaps, as good a definition as we can give of hysteria is "functional neuroses which are dependent upon psychic influence." Asthenopia in the cases mentioned does not start from cerebral influence in the first place. It may start from some tangible cause as coryza, dyspepsia, persistent overwork, etc. After these causes have ceased to act, the persistence of asthenopia in some cases is purely psychical. At least, we can find in some instances no somatic anomaly whatsoever which would account for the persistent asthenopic annoyance, and close analysis renders it probable that the patient retains the remembrance of his former suffering and suffers still when using his eyes, simply because he expects the discomfort.

About the only mode of therapeutic influence which I have found of benefit in these cases was to get the patient to forget the trouble gradually. If circumstances permitted I advised to drop work entirely. It is by change of surroundings in these slow cases, especially by a vacation and traveling; it is by oblivion of the annoyance attending previous eye work and by the suggestive influence of promised relief that I have attained moderately satisfactory results in these cases where no somatic condition remained to which the asthenopia could be attributed.

DISCUSSION.

Dr. Casey A. Wood—There are two causes of asthenopia, unconnected with the refractive state, that are common enough and to which I would draw the attention of the Society. First of all are those minute choroidal changes which one, now and then, observes about the macular region. In Moorfield's we were accustomed to give certain phases of these the name of Tay's choroiditis. They occur, in my experience, mostly in young adults, and although they are confined entirely to the choroid, I have a suspicion that in many instances (and I believe that I have been able to show it) that there is a slight lowering of central vision, which corresponds to ill defined relative scotomata. Exactly what these changes are and what they are due to I do not know, but I am certain that in many instances they produce asthenopic symptoms, because after correcting all refractive errors and after disposing of the various muscular anomalies that commonly produce eye strain no relief is obtained.

The treatment of such cases has with me been extremely unsatisfactory. I have never succeeded in doing very much for these patients except to give them temporary relief under atropin for long periods and to prescribe tinted lenses. After the effects of the atropin had worn off I endeavored to keep them from tiring their eyes, especially by prohibiting all near work. I recall very distinctly a case which I had that had been examined and treated by quite a number of ophthalmologists, by most of whom these changes had been recognized. After this patient had been under my care for months, during which time I treated her *secundum artem*, I urged her to take about two years' holidays from the work she was trying to do, but at the end of that time I do not think she was able to do more than a quarter or a half hour's near work at a time. In other words, I have come to regard such cases as practically incurable, at least while the choroidal process is active. Central vision was excellent in this case, *i. e.*, distant vision was almost normal and very fine print could be made out.

A careful examination with the perimeter shows, in most instances, doubtful central scotomata for red and green, not

always confined to the fixation point, but sometimes a little to one side of it, and not so well defined as one sees in toxic amblyopia and in similar diseases.

I hesitate to speak about the other source of asthenopia, although I have referred to it in print before, because it is usually only a manifestation of the so-called neurasthenia. I refer to insomnia. In a scientific society like this it is hardly fair to speak of a mere symptom as productive of asthenopic symptoms, but, be that as it may, I think I am correct in asserting that in the presence of decided insomnia, not associated with organic disease, but which seems to be a part of a general neurosis, the treatment of cases of asthenopia is far from satisfactory. The correction of the refractive error, looking after the eye muscles, etc., do not produce the usual results. Whatever be the cause of the insomnia, I consider it my duty to tell the patient that unless it can be relieved in some way or other I shall not be able to do very much for him or her, as the case may be.

Dr. F. C. HOTZ—I shall speak of only those local conditions which produce asthenopia, and among these I wish again to refer to what Dr. Gradle has already touched upon, to blepharitis as one of the common sources of asthenopic symptoms not referable to refractive errors, and I lay more stress on this condition than did Dr. Gradle, and I do not agree with him that in those cases where there is a slight or hardly perceptible blepharitis, the inflammation produces asthenopia only because the patient is in an abnormal nervous condition; for I find whether the blepharitis is slight or well marked the eyes show a particularly marked sensitiveness to any irritating cause, such as exposure to light, to wind, and consequently the exertion of the eyes in near work produces congestive conditions in the lids, and the result is a feeling of heaviness due to the congestion, and expressed by the patient as fatigue, burning, smarting and pain leading to headaches.

We know that some time ago errors of refraction were charged as causing blepharitis, and it has become a habit with many oculists to prescribe glasses and nothing else in cases of blepharitis. I still insist that the relief is more prompt by paying attention to the local treatment of the inflammatory condition of the lid than to the refraction, and I know many cases in which glasses have been worn for years and no relief of the asthenopia was obtained, when under proper local treatment the patient was relieved and could use his eyes with perfect comfort, whether he had the glasses on or off.

We find a similar condition in the conjunctiva. Very often the inflammation is so slight that it is not shown over the tarsal portion of the conjunctiva, which on eversion of the lid looks perfectly well. There is often only a slight congestion of the retro-tarsal folds, a congestion which is aggravated by near work and leads to a succulent condition of the retro-tarsal folds, which causes a feeling of fatigue to the patient. These slightly succulent or congested folds are usually not exposed when we turn the lid in the ordinary way, but they can be very easily brought into view when the eyeball is pushed back into the orbit by slipping the lower lid over it and pressing upon the lower lid, pushing it back into the socket, while the everted upper lid is held against the supra-orbital margin. This makes the retro-tarsal fold spring forward and in many cases where the conjunctiva looks perfectly normal when the lid is everted in the usual way, you will be surprised to find a diseased condition of the fold which fully accounts for the complaints of the patient.

A third local condition has also been touched upon, viz., slight changes in the choroid. I would mention as quite frequent an excessively saturated redness of the fundus, a slight indistinctness, or blurring of the outlines of the papilla, and changes in the pigmentation. Very minute white dots scattered over the fundus have also been observed by me and I had reasonable grounds to regard them as the local condition for the asthenopic complaints. In some of these cases I discovered little choroidal patches in the periphery of the fundus, so that I am inclined to think that in many cases which are considered as choroidal hyperemia there is an actual peripheric choroiditis which under the strain of near work produces painful eyes and the symptoms of asthenopia. Old people during the development of cataract often complain of a dull recurring pain in the eye, and Dr. Risley has called our attention to the fact that in a good many of these eyes there are changes in the periphery of the choroid.

Dr. CHAS. M. ROBERTSON, Davenport, Iowa—Not as much has been said about the nasal causes as I think there should be. Dr. Gradle hinted at the subject in saying that stenosis of the nasal cavity might be the cause, either from enchondroses, an excrescence, a deviated septum, or from chronic rhinitis. The only form of rhinitis that is exempt, according to American authorities, is the atrophic, although Schwartze, and some others than he in Europe, state that they have seen cases originating in atrophic rhinitis. My experience has taught me that we are more liable to have reflexes from vaso-motor paresis than from chronic rhinitis and true hypertrophic rhinitis, although the great majority of cases of hypertrophic rhinitis are the result of a paretic condition. Some authors believe that an enchondrosis on the septum acts by producing a vaso-motor paresis behind the occlusion thus formed and not from the enchondrosis *per se*. A spur may act primarily by producing pressure irritation to the turbinated body opposite.

I have had several cases in which the removal of the spur was followed by complete relief. A great many cases of conjunctival irritation or blepharitis may be due to obstruction by pressure of the inferior turbinated body on the lachrymal duct opening. I have had one case of such where cauterization of the inferior turbinate relieved the condition which produced the asthenopic symptoms.

Dr. W. F. COLEMAN—We all recognize the fact that probably 90 per cent. of all cases of asthenopia are due to refractive errors. Of the remaining 10 per cent. I agree with Dr. Gradle that perhaps only 3 to 5 per cent. are due to muscular condition; not that muscular insufficiencies are uncommon, because in non-asthenopic eyes they are extremely common, but that relieving these muscular conditions does not cure the symptoms in an asthenopic patient. Tenotomies in my limited experience have not been successful. Of those having satisfactory results the ones dealing with vertical insufficiencies have been most satisfactory.

Dr. Coleman then reported several cases showing that in spite of every effort to correct refraction and muscular insufficiency the symptoms remained.

Dr. WM. H. WILDER—Dr. Gradle has covered the subject very thoroughly. I would like to speak particularly of the peculiar "pepper and salt" appearance of the retina. In Moorfield's it was Mr. Nettleship's habit to call attention to this condition, especially in young adults and children. It may be that this peculiar arrangement of the pigment epithelium is sufficient to cause hypersensitiveness of the part.

Dr. HUGH T. PATRICK—There were one or two points brought out in the discussion that I might speak of. Dr. Wood spoke of asthenopia due to insomnia, and I wish most emphatically to dissent from any such way of stating the interrelation of symptoms. Insomnia is simply a symptom of disease, and I do not believe that any case of asthenopia can be cured by treating the insomnia *per se*, because it must in the nature of things be treated by treating the underlying nervous or other conditions. Mans of these cases of asthenopia are nothing but excessively nervous subjects. It is to be expected that a person who is nervously exhausted, who is in the true sense of the word a neurasthenic, who is suffering from nervous prostration, should suffer from asthenopia. He gets tired if he walks too far, and gets tired if he follows a train of thought. Such a person

would not be expected to read as he ordinarily does. We should expect him to become weary and the print to blur.

There is another class of neurasthenics that suffer from asthenopia, and they are the neurotics *par excellence*; the patients who show the classical symptoms of neurasthenia from insufficient cause. Such is the laborer who, after overlifting, shows the typical symptoms of neurasthenia coming on one by one, and with them asthenopia. Or a woman who undergoes a trivial gynecologic operation, where there is no material loss of blood, no shock, no infection, but anxiety, apprehension, or other abnormal psychic condition, and who after the operation develops one after another, generally slowly, the typical symptoms of neurasthenia and asthenopia. The asthenopia of these cases arises not from overwork and nervous strain, but from psychic causes. To treat such cases by treating any anomaly of the eye alone is very short-sighted. It would also be short-sighted to treat only the nervous system without treating the ocular abnormality. In may of these cases the ocular symptoms may be the most pronounced, and so largely mask the other manifestations.

I wish to impress from the standpoint of the neurologist, that in these cases neither rest, over-feeding, or anything but psychic treatment will do any good, if any good can be done.

Dr. C. W. Hawley—I would like to state that I find more and more the influence of general conditions on asthenopic patients. I no longer confine myself in many cases to the exclusive treatment of the eyes, but often have cause to congratulate myself for treating general conditions, and in this way relieving the asthenopia.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION BY CARL H. VON KLEIN, A.M., M.D.

(*Continued from page 413.*)

CHAPTER II.—THE QUACK.

Family quackery, old women, shepherds and others; The charlatan at the annual fair; Secret remedies; Hernia curers, castrators; Cataract-couchers, Hilmer, John Taylor; Stone cutters; Frère Jacques, Rau; Hangmen, torture, guillotine; Quacks in foreign lands; Remedy against quackery; Our time.

Quackery is an evil innate in human nature, and enters the sick room with every old woman. Who is there that visits a patient and does not feel impelled to pass judgment on his ailment, to display wisdom as to diet and temperature, or to recommend with the utmost eloquence a remedy which has at some time helped this and that acquaintance? With this misguided condolence, which is not peculiar to the feminine sex, there sometimes lies behind the impulse to play the doctor, only indiscrete sympathy, but very often it is largely arrogance and self-conceit. The traditional blundering of mothers and aunts, even to this day, makes the life of the practising physician so bitter that he often leaves the sick room feeling that medicine is indeed a sublime science but a miserable business. This well meant quackery is only a little twig of that rankly luxuriant quackery of the 18th century which like a poisonous vine shot up out of the superstition and prejudice of the German people. However much custom, habits, laws and forms might change, the prejudices as to medicine remained fixed as they had been for centuries and were handed down from one generation to another. The stupidity of the public promised rich plunder.

The people were wholly ignorant in medical matters. They had no opportunity to instruct themselves concerning life and health, and were incapable of distinguishing the true physician from the quack. Of public hygiene, the physicians themselves knew little and whenever they ventured to interfere were strenuously opposed by the lawyers, who had always claimed for themselves the management of state affairs. Various causes contributed to lead the public into the hands of the quack. The large number of ignorant physicians and surgeons, who belonged in the same class with the charlatan and decried scientific training as useless; their wrangling, the trivial character of the doctor's examinations, all undermined confidence in the medical profession. Other people, especially the clergy and the apothecaries, were very ready to grasp them by the hand. A man who every year prepared so many prescriptions for every possible ailment must necessarily become so wise as to be able to cure those ailments; no one for a moment doubted his skill, so they asked his advice and freely took his medicines. This class embraced, besides the barbers, bathkeepers and midwives, other wise people, apothecaries and old women, root-gatherers and alchemists, shepherds and blacksmiths, hunters, hangmen and other riff-raff (Lumpenpack), The army of pretenders was countless. They all enjoyed unquestioned confidence and, as the rabble believed, possessed a supernatural gift of healing. The peasant found conversation with a shepherd far more to his taste and to him more intelligible than with a physician. He feared he might not be treated with proper care by the physician, and moreover that he would be obliged to pay more for it. Furthermore there prevailed among the peasantry the idea that their diseases formed a distinct class which the physicians of the rich did not sufficiently understand. But quackery was also to be found in the better classes, among people of rank and education. With them blind faith had its roots in the taste for everything new and extraordinary, which indeed so despotically rules many people. They reproached the physicians because they uniformly clung to the old ideas and never sought out anything new. They vested great confidence in those who agreed with their own preconceived opinions, and ignored those whose treatment was in the least disagreeable. Human life was intrusted to the quack, but in all other things he was considered rude and ignorant. On the one side was the desire to become healthy, on the other the eagerness to make money; both of these conspired to unsettle the reason of the sick. People were imposed upon by anything and put faith in the most shameless promises, until at last the empty purse and disillusionment brought the victim to his senses. That the charlatan knew better how to gain confidence and was much oftener consulted than the scientifically trained physician, is a fact just as true today as it was one, two, or three centuries ago. In the sixteenth century all Europe swarmed with quacks, whose name (Quacksalber) arose at this time, when syphilis raged frightfully, and the medical pretender made an unwise and excessive use of mercury (Quecksilber). Bacon wrote of that time: "The rabble had in all times considered every old woman and every charlatan as a natural rival of the best physician and worthy to contest with him the preference at the sick-bed." In the seventeenth century the clamor over this nuisance was still unabated, and what Primrose then said of England might be written of Germany a hundred years later: "It is surprising that most people are so careful in the choice of their physician, that if a physician settles in

a place they venture to trust him only after a long time; on the other hand, they immediately trust a traveling mountebank, if he remains in one place only a few weeks, and people of the poorest class, who on the plea of their poverty do not employ physicians, sometimes waste large sums of money on these itinerants. And these quacks, devoid of all merit, who in no country would be considered competent to attain honor and dignity, enjoyed respect and great honor, and were sometimes accorded the same rank as physicians."

Besides those, who along with their trade occasionally dabbled in medicine, there was a class of men called mountebanks (Marktschreier, Medicastri) who made a special business of quackery. To this class belonged the dealer in nostrums, the itinerant trussmaker, cataract coucher and lithotomist.

The *mountebanks* went from city to city, from one village to another, hence the name "storks" (Störcher). At every fair (Jahrmarkt), the Tyrolese stood beside the coucher and from a dirty medicine-case in his booth sold at an enormous price to the gullible peasant the remedies secretly and very cheaply obtained from the apothecary shops. They paid the state a few kreuzers as a tax, just as the player, who was obliged to pay one guilder for each performance. A printed announcement, rich in Latin and Greek phrases and scriptural quotations, shamelessly promised to cure everything in the shortest time with the help of God. They even warned the public against other mountebanks, and as proofs of their own skill produced testimonials, written by themselves and false patients. Those who had already made money came in their own carriages with two beautiful horses, if dun-colored so much the better, and had themselves announced in the village as a court-physician, dentist, oculist and rupture specialist licensed by some German prince. Not satisfied with coachmen and servants to carry the proclamation throughout the whole town it was announced from the pulpit that everyone suffering from diseases of the teeth, ears or eyes, or with rupture, would be guaranteed a complete cure without having been previously seen or examined. One itinerant, John George Drenkler, called himself, in his prospectus, upon oath a burgomaster, operator, oculist, lithotomist, cataract coucher and trussmaker, born in the city of Hamm, in Bavaria, now a royal burgher, domiciled at Bischheim, who in various kingdoms and celebrated capitals, had cured many thousand men of different diseases. He said: "I cure all diseases of the eyes; a man whose sight has been lost for ten, twelve or fifteen years, who has gray and white cataract, I can relieve in a few minutes so that he can see the smallest bird on the roof." The peasants, in processions, journeyed to the mountebank. Painted, and clad in the ragged mantle of a theater prince, ornamented with strands of teeth about his neck, or dressed as a Turk, he prated to them that the Turks are the best surgeons. By hundreds the people stood with eyes and mouths agape, in front of his tumble-down booth, which was pasted over with advertisements, and false charters of serene highnesses and high and mighty rulers. The people were happy to be cheated out of their money by the wonderful man and obliged to pay twenty times too much for every remedy. No medicine there was too expensive for those who in life often suffered the greatest poverty. The nostrums were principally antidotes, wonder balsams, salves for burns and aromatic pellets. In the presence of the people the mountebank swallowed his antidote and then if we assume that he did not lie, he ate ratsbane. But the poison did not harm him, because he had already filled his stomach with milk and fatty substances. Again he took his antidote, and placed vipers on his breast; and these did not hurt him because they were tame. He represented to the peasants that his marmot's grease, or his herb-salve would heal all fresh wounds in twenty-four hours; he then cut his arm with a sharp knife, bound it up with his salve, and on the following day showed the scar. The cut was however only a superficial scratch, which he had immediately drawn together with a bandage so that the healing was accomplished by that means alone. The people saw and wondered. No cure was undertaken without cash payment in advance. A deaf man being required to pay eight thalers in advance declined to do so, but offered to pay ten thalers if he should be cured, whereupon the mountebank refused the case because the man lacked confidence. Another quack cured all diseases with *aurum potabile*. The poor patient was given the strongest assurance that gold would help him, and out of pure love, he was furnished for fifty ducats, medicine which upon oath cost one hundred ducats. Old midwives sold pills for sterility which would be effective, even without coition. When after a few weeks in a village the charlatan, whose protruding paunch betrayed his prodigal life, received his bill, he left the place which had been levied upon for his support and blessed by his presence. The public was very willing to be deceived; it was indeed familiar enough with wonderful cures by means of plasters, oils and balsams. These were talked of much oftener than they were accomplished; the cures were followed with attention, but the mischief which quackery did was overlooked. Their fundamental principle was to condemn everything which had gone before, and to avoid every connection with physicians and surgeons. They removed all bandages and threw them away, and as they were not skilful enough to supply others, they used only a plaster or a salve. The healing of an ulcer or a wound they left to nature, and so occasionally accomplished a cure whereby other people were misled.

The Hamburg and Frankfort periodicals as well as other advertising mediums teemed with names of nostrums. Pills were extolled for gout, powder for goitre, blue water for murrain. The swindlers were blindly trusted. The more shamelessly they boasted, the better success they had. They were a plague upon the land and worked more devastation than diseases.

Only a powerful reason could induce a physician to renounce his science and become a charlatan, *par excellence*. There was such a reason, as an honest colleague in the year 1761 confessed, that is, hunger. As an upright man he had not been able to earn a living, although he despised all humbug and served his patients faithfully. Nevertheless the young swindlers were given the preference over him. For a long time he endured the ridicule and humiliation, until at last hunger overcame his pride. He went to another town and became a charlatan. He prepared worm cake, aurum potabile, heart powder and tooth powder. He took a clown along as a servant and together they took their place in a booth. The servant whom he represented as a doctor, extolled the wonderful remedies; he himself undertook the roll of harlequin, and said to the rabble: "That is a fakir whom misfortune has brought so low that he dupes the

people in this way." Nevertheless they crowded to the booth and bought. He soon became a rich man. Finally a harsh city physician had him arrested, put into prison on bread and water for six weeks, and his wares confiscated. He owed his freedom to a baroness who had read in his prospectus, that he possessed an infallible means of preserving the skin against wrinkles for a hundred and forty-five years. She bought him out of custody.

The *rupture surgeons* held a prominent place among the surgical mountebanks. Those suffering from hernia have always been exposed to the basest deceptions. No disease created more quacks than rupture. Most men looked upon this ailment as a defect in their organization, as a disease which drained their strength and their generative powers. This fear was so deeply rooted that they were made miserable by it. The impostors reaped their profit therefrom; they knew that a man was careful to keep this defect a secret, believing it to have a syphilitic origin, and that he desired most earnestly to be cured of it, cost what it would. A. Paré had indeed already recommended the truss, and had provided it with a larger opening, and had introduced a new method in place of the cruel operation. But the truss was very crudely made and very painful, so much so that one could not rightly lean his weight upon it. It is no wonder that the rupture surgeon found a large field, when even the physicians were so ignorant of the theory of rupture that a certain Dr. Lange in his Surgery (1776), recommended that a child suffering from a rupture be drawn through a cleft oak sapling, whose forks were held apart; this remedy, which was very general among the peasants, helped many children. The honorable surgeon could only recommend to the patient the permanent wearing of a truss. The charlatan made capital of this poor relief, and maintained that the surgeon understood nothing of the proper treatment, since the bandage could not cure the rupture and only an operation could completely remove the evil. The boastful promises corresponded with the wish of the patient to become well, so that consent to an operation was readily given. Many a mother dreaded the trouble of attending to the truss for her child year after year, and chose as a shorter way the operation, *i.e.*, castration, the nature of which the rupture surgeon naturally kept to himself. It was better that the child should die, than to live with so horrible an affliction, and instead of buying a truss for two guilders, they gladly gave the rupture surgeon twenty to thirty thalers for an operation which a regular surgeon would have performed much better for five thalers. Money induced the charlatan to perform the operation, as one of them frankly informed Heister. For the truss he charged only one thaler, while on the other hand for the operation he received twenty thalers. In England ten guineas were often paid for the operation. When, upon the reappearance of the rupture, the deception was exposed, the people kept it quiet, because they were not willing to admit their delusion. By the side of the rupture surgeon stood the dreadful quack, who did not venture to use the knife, but advertised his specifics, rupture plasters and the like, in the newspapers, and in this way extracted the money from the pockets of the poor. If the surgeons complained of this imposture, they were accused by the public of professional envy. Among the peasants rupture was very common, often from three to six cases in one village, so that the opportunity for an operation occurred often enough. In Breslau one rupture surgeon mutilated over two hundred children. Rupture was especially frequent in Switzerland, where athletic exercises, wrestling and jumping, were very popular, and after the battle of Vilmergen, there were found among the fallen Swiss an extraordinary number with hernia. This was a headquarters for the rupture surgeons, of whom not less than eighteen sojourned for a time in Lucerne alone, within three months.

Until in the second half of the eighteenth century, operation was preferred by most as a radical cure. The rupture surgeons, who styled themselves country operators (Landoperateure), and were allowed princely privileges, were traveling through Germany as late as the seventeenth year of the century. There was little or no talk of civil supervision. The operators, both men and women, had begun as horse or swine surgeons, and had gradually acquired a little anatomic and surgical knowledge, until finally they ventured to treat human beings. Like an heirloom, the calling was handed down in a family. Their operations consisted in tearing out and cutting out the testicle together with the seminal duct. They considered castration necessary because they believed that the intestines and the testicles were enclosed in the same sac; there followed, if the testicle was not removed, a relapse, and the healing of the ruptured peritoneum could not be accomplished. The castration practiced at that time was a principal reason why learned surgeons, in the earlier times, would not undertake operations for rupture, but left them entirely to the rupture surgeons. A knife, long nails on the fingers, and a single strand of strong pack-thread, were the only instruments. They laid the patient upon a table, the head lower than the abdomen, and bound him fast. The rupture surgeon pressed the intestines back into the abdomen and had them held there by the hand of an assistant, then an incision three or four fingers long was made in the scrotum through the skin and fat, extending back to the hernial bag, which was freed from its environment, drawn out, and a pack-thread wound twice around the hernial bag and the seminal duct, by which these vessels were laced together. Then the rupture surgeon, at the expense of fearful pain to the patient, tore out the testicles, but concealed them in his hand, like a juggler, and quickly made an incision, a finger breadth under the pack-thread. In case of double rupture, both testicles were removed, whereby the patient became impotent. The operation, accompanied by all kinds of benedictions and foolishness, lasted only a few minutes. They filled the wounds with lint, drew them together with plaster, and on the following day, bound them with oil of eggs, Johannes oil and other balsams. As a rule, the rupture surgeon, after he had been properly paid, left his cruelly martyred patient in two or three days, without troubling himself further about the after-treatment; only the better ones among them allowed the patient to lie in bed twelve or fourteen days, and attended him. A few were cured, and on the other hand, many took fever and died from inflammation and loss of blood, or in other cases, after a little time the rupture returned. The rupture surgeons operated in different ways. Those from Norcia in Italy, who enjoyed a special reputation, insomuch that a certain Horaz performed about 200 operations a year, practising very commonly the barbarous method of castration. The Spanish rupture surgeons did not cut out the testicle, but pressed it back in the intestinal cavity, and usu-

ally wound a gold thread around the hernial sac; other Italians burned the seminal organs with a hot iron. The barbarity went so far that, as Dionis relates, one was accustomed to throw the severed testicles to his large dog, which always lay under the operating table and eagerly snapped at the booty.

The state allowed the rupture surgeons to practise under certain restrictions. In the year 1685 the Kurprince of Prussia had issued an edict "that the operators, oculists, lithotomists, rupture surgeons, dentists, etc., should not practice without previous examination at the collegia medica, and should not remain over four days at the yearly markets." The edict of 1725 also allowed the rupture surgeons, as well as the dentists and root dealers, to travel around to the fairs in Prussia, and to stand publicly in the cities, if they had previously obtained a license. One of the first who opposed the nuisance was Heister, who in the year 1728 wrote a special dissertation "de kelotomiæ abusu tollendo," and demanded that the authorities prohibit entirely the methods of the rupture surgeons, in those cases where the patient could get along with the help of a truss. In general an upright surgeon dared not risk an operation at all, because they endangered life, were terribly painful, sacrificed the testicle, and after all did not insure against a relapse. Exactly one hundred years later the trade of truss- and bandage-making was conditioned upon an examination and a license. Louis XIV. commanded the surgeons to discover a method by which rupture could be operated for without destruction of the testicle. He himself dispensed for rupture a nostrum he had received from a Prior. Later, Haller turned his attention to his mutilated countrymen. In Germany the Margrave of Baden-Durlach, Charles Frederick, has the credit of forbidding (in 1766) the treatment of rupture by means of castration in his country. The French ministry discovered, when in 1779 the Royal Society of Parisian physicians was established, that a great number of the conscripts had lost one or both testicles. Several French bishops had observed that some mountebanks had advertised, with trumpet-flourishes, in their diocese, a preventive for rupture for thirty livres, which was nothing less than castration. The bishop of St. Papaul found in his district over 500 castrated children, from whom the shameless rupture surgeons had taken the elastic trusses which he himself had provided. As a warning, the Paris Medical Society published the names of those rupture surgeons whom they could discover. The previous century indeed recognized the barbarity of castration, but regarded it very leniently. So Dionis, who considered castration a transgression of divine and human law, did not disapprove of it in the case of priests, since they must be celibate, and would in this way have the double advantage of relief from the annoyance of those organs, and at the same time be cured of hernia. The Catholic church had laid its law upon the castration of boys; nevertheless, such boys sang everywhere in the masses, and they were well paid. Rome and the other great cities of Italy swarmed with these singing martyrs. There were special operators, boy-cutters (Knabenschneider), some of whom, in Naples, displayed publicly signs with the notice: "Here boys are cheaply castrated."

The *cataract couchers* were another kind of surgical quacks. In the sixteenth and seventeenth centuries ophthalmia, entirely neglected, lay in the hands of these mountebanks, who spread their confusion over all Europe, and until the end of the eighteenth century overran Germany in all directions. Many of them were Italians and Frenchmen. In the larger cities, one oculist alternated with another, and the new-comer would berate the unskilfulness of his predecessors. Like the rupture surgeons, they conducted their handiwork with a peculiar shamelessness and crudity. In 1640 there came to Lübeck a cataract coucher by the name of Hilmer. He had the blind come to his room and operated on them in spite of coughing and snuffling. Without having the least knowledge of diseases of the eye, he thrust a round, somewhat dull needle in, moving it through the hyaloid to the anterior surface of the lens, detached this from above, then thrust the needle around the curve of the lens with great rapidity, so that it fell with the capsule upon the surface of the hyaloid. Then he stuck the needle again into the lens, and drawing this back into the opening thus made, it grew fast there and never again rose. In the case of soft running cataract, the needle was turned around in the lens five or six times. After the operation Hilmer was satisfied if the patient could see a snuff-box or a watch, troubled himself no further in the matter, but had the eye bandaged by his servant, who, possibly, later became a cataract coucher. The servant poured some of his master's volatile eye wash into his hand and let it evaporate into the eye, then some beaten white of egg with powdered alum and camphor was laid upon it, for which the servant received an extra thaler from the patient. Hilmer operated with reckless self-confidence, and was so rough that he gave a certain woman a sharp box on the ear, because she cried loudly when the needle was in her eye. After the bandaging the patients could go home at pleasure, either riding or walking. Almost all became incurably blind a few days later. But Herr Hilmer did not await this period; he put his money in his pocket and disappeared. Out of fifty who were operated upon for cataract, in the vicinity of Lübeck, not more than four retained their sight. After him came the cataract coucher Garing, who likewise understood nothing of anatomy, whose hand trembled badly, and who himself could not see ordinarily well.

The clever swindler, John Taylor, from England, made the greatest sensation since 1730. He had studied in Leyden, and traveled through all Europe and half Asia under the title of a papal, royal, imperial, princely, grand-ducal and ducal court oculist and knight. Like the mountebank, he exhibited on his journeys pictures, on glass and copper plates, of the diseases of the eye. Frederick the Great denied him entrance into Prussia, therefore the patients traveled to him. His reputation was so great that several princes, the Prince von Holstein, the Princess von Georgien, the Duke von Mecklenburg-Schwerin and others, sought his advice. The last mentioned had him come to Rostock, but out of caution, invited also E. F. Heister from Helmstadt, who together with Dr. Eschenbach should attend him. Dr. Eschenbach freely opposed Taylor and convinced himself, as well as his colleague, of the crudeness as of the frequent unsuccessful issue of the operations. Occasionally the knight made a great fiasco; in the opera house in Lübeck, he was publicly rebuked by an eminent gentleman, whose mother Taylor had unsuccessfully operated upon for cataract in Rostock, and had swindled her out of considerable money; on this account Taylor went away discouraged. He operated upon all cataracts indiscriminately; he made an

incision in the cornea with a lancet, one and one-half to two lines under the middle, opened the capsule with a needle, plano-convex at the point, and either pressed the lens down or drew it out. In ophthalmia he rubbed the conjunctiva with a bunch of barley-grains. In a large number of writings, whose prefaces were scattered here and there with verses from Ovid and Horace, he showed only a superficial knowledge of ophthalmology, although perhaps no oculist of that time had seen so many patients with diseases of the eye as he. Confused in his ideas, he created many new and useless names, and often contradicted his earlier assertions. In a letter to the Académie de Chirurgie, he repudiated David's method of extracting cataract (Extractions Methode). To generate the necessary humbug and self-glorification, he arranged for the publication of a collection of criticisms of the most eminent academies of Europe, in which were presented countless testimonials from faculties of medical colleges, especially in Spain and Portugal. He also caused one translation to follow another, insomuch that his account of the mechanism of the eye has been rendered into eight languages. A few new instruments invented by him were forgotten after his death, which occurred in a cloister in Prague in 1772.

(To be continued.)

PECULIARITIES OF THE SURGICAL DISEASES AND INJURIES OF THE NECK.

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(Continued from page 364.)

The *diseases of the skin of the infra-hyoid* region present nothing peculiar. The presence of the beard in the upper part of the region renders the part liable to the diseases of the beard described in the affections of the face.

Neuroses of the region present nothing peculiar.

Softening and *induration* also have no special features.

Congestion of the infra-hyoid region presents no peculiarities.

Inflammations of the region are not so frequent as those of the lateral supra-hyoid and of the sterno-mastoid regions; they may occupy the skin (erysipelas, furuncles, carbuncles); the connective tissue, the few small lymphatic glands situated along the anterior aspect of the larynx and trachea, or the thyroid body (the latter affection will be treated separately). Inflammations beginning in the previsceral or retro-visceral space are not frequent and are usually due to injuries.

Cellulitis and abscess of the antero-lateral superficial region present nothing special. Antero-lateral deep or subaponeurotic cellulitis when median or supra-hyoid or submental, occupies the space between the mylo-hyoid and the fascia; this form is not to be confounded with the cellulitis developed upon the mylo-hyoid and invading the floor of the mouth. Abscesses of the thyro-hyoid and epiglottic spaces originate in the fatty lobules and lymphatic glands between the epiglottis and the thyro-hyoid membrane; they may be due to lesions of the tongue, larynx or thyroid body. Laryngo-tracheal abscess causes much dyspnea and shows a tendency to extend down along the trachea.

Such lesions are often the starting points of the peculiar broad or diffuse cellulitis of Dupuytren; they are sometimes secondary to cellulitis of the substerno-mastoid connective tissue; they are at times produced by cold, by crying loud, so that the public criers and street vendors are more often affected; usually it is women in bad health that are most commonly thus afflicted; men very seldom. These diseases are usually connected with some general diathesis; they may extend from the ear to the clavicle and from the nucha to the larynx; they may involve also the other side. The pus is infiltrated into the muscular interstices and the connective tissue; gangrene is not infrequent. The pressure symptoms are very great. This description resembles that of the disease called diffused cellulitis of Gray, Coly and Hannon, which they say is mostly limited to the anterior region of the neck; it is due to cold and humidity and resembles erysipelas; it gives the sensation of hard edema without fluctuation. The inflammation of the infra-hyoid region gives rise to more risk of edema of the glottis and to fusing in the mediastinum.

Gangrene of the infra-hyoid region is rare and presents nothing special.

Ulcers are like those of other regions.

Fistulæ due to congenital malformations have already been described. Those due to chronic inflammatory causes, to chronic adenitis, to bone lesions are very rare. Acquired laryngeal fistulæ are the most frequent; they may be due to abscess, syphilitic ulceration, tuberculous ulcer, lesions of typhoid fever, foreign bodies, accidental and suicidal wounds, tracheotomy and other surgical operations. The symptoms are passage of air with mucus and pus, alteration of the voice; loss of speech unless the orifice is closed; all thoracic and abdominal efforts are impossible. These fistulæ remain permanently. The treatment consists in closing the orifice by an autoplastic operation; Beyer uses two rows of sutures, deep and superficial. The forms and varieties are the following: Fistulæ following tracheotomy are oval in shape, the great diameter is vertical, the skin is drawn toward the mucous membrane, it is puckered by cicatricial contraction. Fistula due to large wounds of the neck in which a canula has been introduced, have the shape of a transverse fissure; the upper lip is turned in and is cutaneous; the lower is covered with granulations and is continuous by a long or short canal with the trachea. Fistulæ with occlusion of the larynx occur in transverse wounds in which the skin of the upper lip has been adherent to the mucous membrane of the pharynx forming a septum directed backward and downward and closing the larynx completely. Fistulæ following abscesses are usually small and funnel shaped. Fistulæ due to tumors occupy the cricro-thyroid membrane, which may be perforated. In fistulæ with stricture the respiration is difficult. In fistulæ below the vocal cords the patient talks after closing the fistula, the voice is changed in its timbre.

Gaseous tumors of the infra-hyoid region are extremely rare, except traumatic emphysema and median laryngocele or tracheocele; they present no peculiarities.

Liquid tumors.—Hematoma due to traumatism is not uncommon; the contents should be quickly aspirated if the pressure symptoms are serious. Angioma varix may penetrate down behind the sternum and prevent their total extirpation without the removal of the corresponding part of the sternum. Aneurysms

of this region mostly form a part of the group known as the aneurysms of the root of the neck, *i. e.*, arising from the arch, the innominate or the origin of the common carotid and the subclavian. They are diagnosed by the fact that the finger can not be introduced between them and the sternum. Their treatment is best conducted on medical lines. Distal ligations of the common carotids first, and later of the subclavian, on one side have been performed; also first the ligation of one common carotid and later of the other. Electro-puncture, Macewen's needling, etc., have all been employed with very few successes. Lymphangioma is very scarce in this region. Serous cysts, outside of those of the thyroid body, are very rare. They are specially represented by the congenital median cysts described above. Bursal cysts develop in the serous bursæ found in front of the hyoid bone, Adam's apple, the cricoid cartilage; they are usually called hygroma or hydrocele of the neck; they form the group of the thyro-hyoid cysts. Hydatid cysts have been observed.

Hemorrhagic cysts.—The cysts of this region, when punctured so as to be emptied will sometimes bleed dangerously and fill the cavity to great distension; but this applies specially or almost entirely to the thyroid cysts; if in these occurrences the sac is incised the bleeding is profuse and very hard to control without removing the sac, using freely double forceps and double ligatures and cutting between them.

Chronic abscess or abscess by congestion, is not uncommon over the sternal notch, on their way from the base of the skull and larynx to the mediastinum. The lymphatic glands of the region may also form chronic suppurative adenitis, scrofulous or tuberculous.

Solid tumors (*i. e.*, those whose contents will not flow through an exploring needle).—Hematoma, semi-solid or solidified, present nothing peculiar, nor do sebaceous cysts. Dermoid cysts are not uncommon among the median cysts. The other tumors are all possible, but are all rare. All the tumors of this region present these peculiar features: First, they give rise to more grave pressure symptoms than anywhere else; second, they are usually in the way of tracheotomy, and relief can only be found by operating; they often penetrate behind the sternum, and in order to follow them it is necessary to remove the upper part of this bone. These retro-sternal tumors should be explored with the syringe first; when fluid they should be treated by incising and packing; when solid they should be explored by an incision, and, when possible, enucleated. Great care should be taken not to excise any of the deeper parts of the walls, because the large veins of the region are often adherent to them and are thus severed, and uncontrollable deadly hemorrhage supervenes; the walls should not be incised even between the two forceps, or ligatures, because if these large trunks are involved, the interruption to the circulation may be too serious. Most of these cases are operated upon for palliative purposes of a very temporary nature.

Surgical operations of the infra-hyoid region.—The surgical operations of the infra-hyoid region have been described with the diseases requiring them, but we will here again mention some points of special importance.

It must be well borne in mind that in all cases of injuries and inflammations about the neck the great danger is from suffocation due to the obstruction of the respiratory tract from swelling or edema of the glottis, or from displacements in cases of fractures or ruptures. These accidents often come on so suddenly that the surgeon has not always time to reach the patient and operate in time to save the life; therefore precautionary anticipatory tracheotomy should be performed upon the least evidence of serious suffocation; it can be well done under cocain; it will relieve the existing symptoms of dyspnea, will prevent their aggravation or the death of the sufferer, and will not add to the risks if properly and regularly done; the tube should be long, because of the existing inflammation and the inflammation that will follow may lift the tube out of its proper position and render the procedure useless, deceptive and dangerous, since it will lead to the belief that the operation has been done with no benefit. When fractures or ruptures are strongly suspected, after the threatening suffocation has been removed by tracheotomy it is important to examine thoroughly and repeatedly with the laryngoscope to ascertain if there is any obstruction visible with the instrument; if none is seen and yet a fracture is strongly suspected, the surgeon must explore directly, cut down to the hyoid bone, the thyroid cartilage, the cricoid, the trachea and remedy all deviations causing obstruction, using catgut or silver stitches and small silver bands as splints or pins inserted through the fragments. It is of paramount importance that there should be no impediment left when the tracheotomy tube is removed; if all these efforts have not been made, the patient may have to wear a tracheotomy tube for life or submit to the above measures after the fractures or ruptures have united, *i. e.*, under the greatest disadvantages.

In cases of growing aneurysms at the root of the neck, in view of the distressingly painful condition of these patients and of the fact that they are doomed, the surgeon is justified in resecting the upper part of the sternum as an exploratory operation. When it is found that the aneurysm is one of the origin of the right subclavian, and that the innominate is not dilated beyond an inch and a half, it is advisable and justifiable to make the desperate attempt of tying the vessel by applying two or three strong catgut or kangaroo ligatures, with as much of a bloodless space as possible between, and tighten them as much as is deemed safe without rupturing the coats. The same remarks apply to the left carotid and subclavian if they are not dilated beyond one inch in diameter.

In cases of tumors of the infra-hyoid region penetrating down behind the manubrium, the same resection for exploring purposes is recommended, with a view to total removal of the tumor if it is found possible.

SURGICAL DISEASES OR INJURIES OF THE THYROID BODY.

The location of a disease in the thyroid body is recognized by the fact that the organ ascends and descends with the larynx during deglutition. Another way to determine if the tumor is of the thyroid body, is to seat the subject with the head stretched back and resting; then with the thumb communicate a slight but brisk movement from below upward; if the tumor moves, it is because it is not adherent or is little so. This is said here once for all. When the tumor is very large this is not very easy to ascertain and reliance must be placed upon the past history and information and upon some of the peculiar features of the affection described below.

CONGENITAL MALFORMATIONS.

Absence of the thyroid body has been observed occasionally, in whole or in part and congenital atrophy has been occasionally observed. Congenital hypertrophy is more common. We must bear in mind that the thyroid body grows after birth, whereas the thymus and supra-renal capsules rather diminish after birth. The hypertrophy may attain rapidly or slowly in a regular or irregular manner the large size seen in cases of goitre; it may affect the whole region or one side only, or even one part. There are also cases of aberrant thyroid due to the separate development of some of the lobules of the organ; these may be single, double or multiple, or unilateral, as low down as the sternum or even behind the manubrium.[8]

Acquired atrophic malformations are due to injuries, to diseases, and to surgical operations destroying or removing the gland in part or in whole. The total destruction or removal of the thyroid gland gives rise to a peculiar train of symptoms. The immediate sequels of total destruction of the whole gland by thyroidectomy are acute mania, tetany, hysteria, myxedema, cachexia strumipriva.[9]

Few who have been operated upon before full growth, escape; the signs begin to show on the third or fourth day; there is paleness, lassitude, weakness, anemia; swelling and coldness of the extremities; muscular tremor, swelling of fingers first, then of the rest of the body, mostly apparent in the face and neck; this swelling is not edema; it is hard and elastic without pitting; the face presents the characteristics of this swelling in the highest degree: there is also cephalalgia, vertigo; the pulse is small and filiform. In tetany there sometimes exists such swelling, but it is not infectious. The complication is prevented by not removing the whole gland, by leaving a piece, especially the one that is adherent to the trachea. The best treatment of this condition is the thyroid extract, or the transplantation of the thyroid gland of the sheep in the connective tissue of the abdomen. The changes are relative to the repartition of the mucin and other metabolic wastes. Pachydermic cachexia (or myxedema of English writers) resembles myxedema and results from the destruction of the gland by disease. Acquired hypertrophies are represented specially by the various conditions known as goitre, which will be described with the tumors of the thyroid body.

Swellings of the thyroid body are almost all due to the various kinds of goitre, more or less chronicly inflamed.

Burns and freezing are only observed in cases of great and deep destruction of the neck.

Contusions are most common in all cases of much violence to the neck as have been described above, coexisting or not with fractures of the hyoid bone, larynx and trachea. The peculiar features they present are symptoms of cerebral congestion and also the fact that they may be followed by myxedema.

Wounds of the thyroid body are apt to be serious on account of the great vascularity of the organ and its friability; the bleeding is usually great, especially if breathing be obstructed or laborious.

Punctured wounds are rare in the normal thyroid body, but are comparatively frequent in the hypertrophied organ or goitre, and if deep give rise to serious hemorrhages. Incised wounds are usually suicidal; those of the upper angles are the most frequent and the most serious because of the presence of the superior thyroid artery; in goitres they suppurate as a rule and they usually also run a benign course. Lacerated wounds are not ordinarily followed by primary hemorrhage but may present serious secondary hemorrhage. Gunshot wounds call for the same remarks; the thyroid gland has been carried away by a missile. Treatment of hemorrhage is difficult because of the friability, which will not allow a ligature to hold tight enough to arrest the bleeding with safety against secondary hemorrhage. The same remarks apply to the forceps left *in situ*. Deep suturing succeeds best, or a chain ligature or a purse-string ligature; a pin or needle suture such as is used for hare-lip sometimes succeeds; pressure is not borne; it is useless to ligate the nearest trunk because the other vessels will keep up the hemorrhage; when the bleeding is serious tracheotomy, if practicable, sometimes stops the hemorrhage by relieving its congestion; in spite of all, death is sometimes the result of hemorrhage. As regards foreign bodies in wounds, there is not a case on record where a bullet was found buried in the thyroid body in normal thyroid. Poisoned wounds, bites and stings are rare, except in conjunction with such in the infra-hyoid region.

Neuroses of the thyroid body are most rare and present nothing very peculiar.

Softenings and *indurations* are rare, except those connected with diseases of which they are but a symptom.

Congestion or *hyperemia* of the thyroid body is frequent on account of the great vascularity, *i. e.*, simple congestion independent of any forming or formed goitre. The causes are all internal; the physiologic ones are efforts of all kinds, menstruation, coition, pregnancy, accouchement; the most common pathologic causes are impediments to the venous circulation, the existence of infectious diseases, intermittent fever, endemic influences; repeated congestions cause goitre. The pathologic changes of structure are usually absent; sometimes apoplectic foci are found. The symptoms are usually bilateral; the tumor follows the movements of the larynx; when the patient makes an effort the facial and temporal arteries diminish in strength owing to the compression of the carotids, the cervical fascia in front preventing the gland from expanding in that direction. The prognosis is usually favorable, but when often repeated from pregnancy, attitude or professional occupation, it may give rise finally to a parenchymatous goitre. The treatment consists in removing the cause and in the treatment of congestion in general. When suffocation occurs, save during pregnancy, the trachea should be raised by a tenaculum; if this is insufficient perform tracheotomy; during pregnancy, if the above means do not afford relief, the uterus might be emptied through the vagina or by Cæsarean section.

Thyroiditis, sometimes called inflammatory goitre, acute goitre, strumitis, is usually unilateral. The external causes are the various traumatisms, infections of any ordinary wound, the influence of cold, etc. The internal causes are an effort causing a hematoma, the influence of rheumatism, a preëxisting infectious disease, especially pyemia, puerperal fever, diphtheria, measles, pneumonia, typhoid fever and malaria. The preëxistence of a congestion or tendency to a goitre is a great predisposing cause; if it discloses itself in

[8] These are cases of supernumerary, double, triple and quadruple thyroid body.

[9] Myxedema should be described in connection with the face. We will only recall here the most peculiar features.

a manifest goitre, small or large, it is not a true thyroiditis, but a strumitis. Suppurating thyroiditis is always of microbic origin. The pathologic peculiarities are that death may take place before suppuration has been established; when formed, the pus may burrow in the mediastinum, along the respiratory tract and the esophagus. The peculiar symptoms are: Great thirst, owing to difficulty in and aversion to drinking, on account of the pain in swallowing; raising at each pulsation of the carotid arteries; cephalic symptoms due to the pressure upon the veins; great congestion of the face and epistaxis due to the same causes; nausea and vomiting, due to pressure on the pneumogastric nerve. The course is continuous; the duration about fifteen or twenty days. The terminations are by persistent indurated spots or by suppuration, but it is very rare; sometimes abscesses are formed, fistulous openings, single or double, occur; the abscesses may open into the larynx, trachea, esophagus or may burrow in the mediastinun; gangrene of the gland sometimes takes place. The prognosis of thyroiditis is grave. The forms and varieties and their peculiarities are: In *thyroiditis a frigore* which has served as a type for the above description, the mortality is much less. Rheumatic thyroiditis usually recovers; but the thyroiditis due to and following a grave general disease presents the highest mortality. In thyroiditis due to an anterior condition of the gland, the pressure symptoms are worse; it almost always suppurates; if the patient survives, the incipient goitre is sometimes cured. The internal treatment consists in combating the cause; the local treatment, in locating the pus as soon as possible and evacuating it; the great vascularity of the organ necessitates the very cautious use of the knife; the evacuation by the method of dilating upon a guide is indicated here especially. Chronic thryoiditis of a normal thyroid body is as rare as it is frequent in goitres.

Gangrene sometimes follows serious injuries or inflammations of the gland.

Ulcers do not exist outside of goitre and tumors.

Fistulæ are sometimes observed after the opening of abscesses or incised cysts and tumors.

(To be continued.)

SOCIETY PROCEEDINGS.

Associated Health Authorities of Pennsylvania.

Fourth Annual Meeting, held in the Supreme Court Room, Harrisburg, Jan. 25 and 26, 1897.

The Governor, Hon. DANIEL H. HASTINGS, presided, and opened the proceedings by some remarks on the importance of the Association.

"There is no subject in which I am more interested than this of the public health. Pennsylvania, instead of being at the head of the States and leading in sanitary matters, is really at the foot. The time has come when she should have laws enacted for the protection of the health of her people, for the collection of vital statistics, the protection of her water supplies and the furtherance of all sanitary work. At present the health laws do not cover the half of the State, and while large parts of the country districts are compelled to rely solely upon the State Board of Health for help, that body is denied the money and the authority needed to care properly for these places."

The first paper was by Dr. RANDOLPH FARIES, instructor in physical education in the University of Pennsylvania, on

THE NECESSITY OF PHYSICAL EDUCATION IN THE PUBLIC SCHOOLS.

Physical education has been made compulsory in a great many universities, colleges and private schools, and in a few public schools in the United States. Boston, New York, Cincinnati and St. Louis were mentioned. They have directors at the head, well trained physicians, who have made a special study of physical culture. This is well, as this work should not be entrusted to an empiric; many injurious results are thus prevented. One of the first things a child should be taught is to care for its body; this will be a preventive of disease. The problems of life can be more successfully met by a man physically developed than one not so. Dr. Hitchcock of Amherst has proved that the average attendance has been better since physical education has been required of the students, and there has been less sickness. Again, children inherit from a parent a constitution weak, predisposed to illness, as consumption, etc.; then if we add want of physical training, bad air, bad food, insufficient clothing, poor ventilation, no bathing, these diseases are very soon liable to attack the child. In large cities hundreds are found with lack of hygienic care at home, and disease is invited. It should be called physical hygiene; it deals with the development of the body, and also such factors as bathing, sleep, food, clothing, diet, all of which preserve health and prevent disease. The ordinary games are not sufficient, as often taught, to keep the children well and healthy. While true in a measure, this kind of exercise may be the cause of deformity, one group of muscles being used too exclusively. Again, weak and diseased children are prevented from taking the usual exercise of healthy ones. These must be provided for. Compulsory physical education would save a doctor's bill to many a poor man. This need is seen more strongly when we reflect upon cases where parents have sacrificed the last dollar to keep a boy at school so as to pass at West Point or Annapolis, not dreaming of the rigid physical and medical examination that is required; should he fail to reach a certain standard in weight, height and physical measurements he is rejected, without regard to his mental powers. Government needs those who can endure fatigue as well as mental exertion; directors should see to this. If this were the only reason for making physical education compulsory it would be a most important one. A special time should be set apart by the director for examining pupils, and advice be given to strengthen the parts which are weak. Gymnastic apparatus is not absolutely needed for training, hence no school need complain of a lack in this direction for not adopting physical education. If a teacher be well posted he can use a series of free movements to answer all purposes, and as the pupils advance they can enter a high school properly equipped. From 15 to 30 minutes daily should suffice. All instructors under the director should be, whether men or women, properly educated in this important branch. A director must be a specialist, or he will soon realize that some of the instructors under him know more than he does of the practical part while painfully ignorant on the scientific side. Great harm results when he is incapable of recognizing the early symptoms of injury from misapplied exercise and which are the forerunners of disease. Were the men who apply for positions as directors of physical education, examined as to their knowledge as to hygiene, physical diagnosis, anthropometry, the physiology of bodily exercise, anatomy, orthopedic surgery, and required to execute some practical work before experts as Hitchcock, Sargent, Anderson and Seaver, fewer unqualified persons would apply. Often the methods are empiric because of the ignorance of instructors. There are many pupils who require special education or none at all. Exercise is one of the most important means for affecting the different bodily tissues. Think of a lawyer practising without having studied law, or a physician who had never studied medicine. Yet this is the same as these empirics in physical culture. People with lung troubles are prescribed exercise with chest weights; the danger of hemorrhage is imminent; or running with heart disease; or an exercise producing deformity of certain muscles, etc. The purpose is the production of a healthy strong symmetrical body. Hollow chests, contracted shoulders, pale countenance, poor digestion, etc., are the result of the want of proper muscular development. Yet these are the rule rather than the exception, and every pupil who develops his brain at the expense of his body is sure to be the sufferer. In the high schools every boy on entering should be carefully measured and also on graduating. Students should be graded according to these measurements. No athletics should be permitted without special training and an examination prior to the engagement. Graded education is as necessary here as in any studies. The director should understand the construction of a gymnasium.

At the conclusion of this paper the Governor favored it with a lengthy comment. He considered physical education as equally necessary for both boys and girls as mental develop-

ment. After alluding to several points in the paper he said he had in mind for townships high-schools, at central points, with large areas of play grounds and gymnasiums, teachers in athletics and with conveyances for carrying pupils to and fro so that none might be prevented from attending by reason of inclement weather, etc.

Prof. HENRY LEFFMANN read a paper on

UNFILTERED WATER ALWAYS UNSAFE FOR TOWN SUPPLY.

Perhaps this was an extreme statement. There is much yet to be learned on the subject of water supply. This subject evidently attracted a good deal of attention from early ages. He alluded to the works of the ancient Romans, the Imperial City supplied with water by hundreds of miles of aqueducts, of the same constructed in ancient Jerusalem; even beyond that Athens had a municipal officer, the superintendent of springs. Surface waters were employed in many ancient as well as modern systems; these may be safe when the territory is undisturbed, but in populated civilized countries it is far different. By surface water he meant all collections of water in free contact with the atmosphere, in motion or at rest, including the smallest pool to the largest lake and from the rivulet to the broadest river. The chemic changes in such are not marked, the gases are apt to escape until they reach a point corresponding to the pressure of the air and the waters are apt to be flat. Rarely do surface waters contain much mineral matter, but generally do contain a variety of living structures representing almost every variety of plant and animal. We usually overlook the larger kind, still they should not be ignored in the close sanitary study as they may contribute to the injurious effects. It is said that water will purify itself as it flows, but this is rather indefinite and not to be relied upon for every river and every season. The processes to which water is subjected in its ordinary condition are not purifying ordinarily. The only plan is filtration through the soil, which is imitated by systems of sand filtration, but the natural filtrations as found in springs and wells is far more satisfactory. It is well known to chemists that well water in districts where there is high soil pollution and the contaminating influences are almost alongside of the well, will show a complete transformation of all organic matter and a practical freedom from bacteria. Waters from such polluted sources may be used for a long time without seeming to cause disease. These may be designated as "dangerous to health" without saying they are disease producing. Practically we must use surface water. Hence we must consider the sources of danger and how they may be avoided. To this audience he did not deem it necessary to describe how the water is polluted. In civilized places there is little territory free from man or domestic animals. The latter have in common with man many diseases. We must therefore consider them as sources of pollution as well as human beings. Many sanitarians have a theoretic surface water. Thus citizens meet and propose to have an area of unpolluted territory as a gathering ground and derive the supply from that. New York city has such a system, yet the water is not perfect. The trouble is that it is almost impossible to maintain such a large area free from invasion, especially where every man has a say in the government. Again the engineering operations will not be perfect because of the cost. Most municipalities are short sighted, do not take sufficient territory, then when an extra amount is demanded water must be taken from places outside.

Apart from disease pollution, there are certain liabilities to deterioration from natural causes beyond human control. Typhoid fever is the principal disease conveyed by water; authorities say that it is due to a particular bacillus, but we also have equal authority that this germ is only a form of a well-known species. There is much dispute upon this point. While Philadelphia has a water supply which is constantly propagating typhoid, both Drs. Meade Bolton and A. C. Abbott say they have never been able to detect a bacillus in the Schuylkill water which they could distinctly identify as a typhoid bacillus. Vaughan of Ann Arbor has had a similar experience; he failed to find a bacillus agreeing with his own culture or with the type culture from Germany. The point is that the typhoid bacillus may not be a fixed and specific germ and that typhoid fever propagation may not depend upon infection from previous disease. If we accept Vaughan that the so-called typhoid germ is an abnormal or "involution" form of the common water bacteria we can see how a water may distribute disease, although not directly polluted. It seems to me that surface water is the form in which such conditions may most probably arise. Various conditions disturbing the organic life are constantly occurring; miscellaneous pollution with organic matter from surface washings, and in this way we can at any time have aberrant or abnormal bacteria forms which may have disease producing character. Then it is impossible to keep analytic supervision over surface waters which shall be of any value. When the mineral contents are very high, we may condemn them. It may appear when the ingredients are low the water would be fair to use, but we here encounter another difficulty, a very pure water attacks lead and thus acquires a dangerous quality. Thus a surface water pronounced unexceptionable may be the means of producing widespread disease.

Sheffield, Eng., is supplied with water from a clean moorland, but acquires lead through the supply pipes and causes serious trouble. Again, surface water receives the rain and surface washings, and even the atmosphere, particularly of large cities, contain much polluting material. Recently another danger from surface water is known. Manson finds the mosquito is the intermediate host of the malarial parasite, and points out the probable danger from surface water as a distributer of malarial poison. This germ enters the body of the mosquitoes, carried by it to the nearest pool, and the body decomposing, sets free the parasite to infect those who use the water. Even if the mosquito does not reach the water (and Manson states that the male always dies before reaching it) the germ has the power of remaining inactive for a long time, and the dead insect blown by the wind into the water will enable the germ to develop. It seems impossible to prevent contamination of surface waters and when we have the enormous areas to deal with as in American cities with their wasteful habits we have a problem beyond satisfactory solution by the engineering and administration method of the day. Few may take such extreme grounds as I have done, but observation and reading have led up to it, hence my opinion is that every city depending upon surface water should provide for thorough purification. Such means are now at hand, and we can take a highly polluted water and render it fit for use. When propositions for filtration are made, it is usual for some one to suggest the selection of a pure supply. "Innocence not repentance," has a catching sound, but I think it is little more. Surface water is so liable to pollution that the word "pure" in regard to it has only a comparative sense, and in establishing a water supply, we should establish systems of storage and filtration, no matter how excellent may be the district whence it is collected. So far as natural waters are concerned those only are perfectly purified that are filtered through the soil; and could we protect the territory of a city from direct soil pollution we would probably find no better supply than in wells sunk to the level of the subsoil currents. "The Monetary Loss to Cities from Typhoid Fever," by Dr. Thomas Turnbull of Pittsburg gave details as to the value of life of classes of men, of loss by illness, etc. In no other civilized country is this mortality so frightful as in America. Pennsylvania stands well up in the van. The first item is the loss to the individual, second the cost of medical attendance, nursing, etc. An average of $100 for each case. Hundreds of cases are not reported, hence we are unable to state positively the loss to the State. Taking the deaths which are reported to the number of cases reported, the fatality would appear very large. Perhaps the real rate is 10 per cent. For 1895, the loss to Pittsburg, Philadelphia and Allegheny was $804,700.

Farr gives as the value of life to the State, the agricultural laborer $25 at birth; $280 at 5 years; $585 at 10; $960 at 15; up to $1,230 at 25, then declining to $5 at 70. This fever occurs most between the ages of 10 and 25. The maximum mortality is between 20 and 25. From the above we see every death from typhoid is a loss of $1,000 to the community. Giving for the cities named a loss of $905,000, 90 per cent. of which might have been prevented. After quoting many of the figures he concluded that this loss was enough to pay for a filtration plant, and the time is coming when negligence in sanitary matters will result in suits not only against water companies, but against the cities and towns themselves. One decided would bring up hosts of others. He drew a comparison between cities with and without pure water supply.

	Deaths.		Deaths.
Hamburg (sand filtration)	9	Allegheny (without)	185
Breslau " "	9	Indianapolis "	97
Berlin " "	5	Pittsburg "	77
Rotterdam " "	2	Philadelphia "	40

CAN WALLS AND WALL PAPER BE RENDERED IMPERVIOUS TO DISEASE GERMS?

was read by Dr. F. F. FRANTZ of Lancaster. We spend one-third of our lives in our bedrooms and most of that time in slumber when the system is most liable to absorb disease germs. The sides and ceilings are plastered or covered with paper, both porous, and absorb and retain disease germs as well as gases. We open windows and doors to purify the rooms, but that does not remove the foul air and germs remaining in the paper and walls. The glue and paste used in applying the

paper to the walls disintegrate under the damp atmosphere, and the noxious effluviæ emerge and pervade the room. The sterilizing agents used are not practical as they only sterilize the surface. A permanently impervious covering on walls and wall paper is demanded. Paint or varnish are used; both give off unpleasant and unhealthy odors, and cease to be impervious after a time owing to the saponifying action of the lead upon the oil, which is a constituent of both paint and varnish. Varnished paper is liable to crack, such cracks providing places for the reception of bacteria. Whitewash is very porous, has deep cavernous recesses under the microscope. The essential requisites for cleanliness as well as prevention of germ lodgment are:

1. The walls or wall paper must be coated with an article which makes a smooth surface rendering them permanently impervious to moisture or gases.

2. Said surface should not be affected by proper sterilizing agents, and should bear washing with soap and water for cleanliness.

3. The surface must not be subject to chemic changes, so that the surface remains permanent and it must also be elastic so that it will not crack after it is applied. It should be so flexible that paper coated with it prior to being pasted on the wall could be readily handled without causing breaks in the surface.

4. It must be devoid of unpleasant or unhealthy odor under all atmospheric conditions.

5. It must be colorless and transparent so that it can be applied upon the richest wall decorations without marring their beauty, and should protect the gildings on paper from the bleaching action of sulphur fumes either from furnaces or when sulphur is used for disinfectant purposes. The entire residence of persons afflicted with tubercular consumption should frequently be fumigated.

6. It should be ready of application and inexpensive so as to bring it within the power of all classes to use it. The discovery which he claimed to have made and which he presented for investigation is a liquid which he believes to fill all the requirements and which from the nature of its qualities is aptly named the *Paradox Sanitary Wall Paper Finish.*

All who have tested it, including the official bacteriologist of the State Board of Health, report that it is fully able to do all that is needed as above.

Dr. BENJAMIN LEE, the secretary of the State Board, remarked that he had submitted the preparation to the bacteriologist for test in the most thorough manner. The wall was washed with 1-1000 solution of bichlorid of mercury and was rendered sterile. A 2 per cent. solution of formaldehyde also was applied with the same result. The color was not washed off either by the bichlorid or by the formaldehyde solution. It may be recommended as a reliable sanitary paper capable of being cleansed perfectly and antiseptically. The second test was regarding the wood-filler wall paper; he found it may be deluged with antiseptic solutions and in no wise is either its color or texture injured. It may be scrubbed with water, soda solution, bichlorid solution, and any bacteria finding lodgment there are thoroughly killed. It is smooth and presents a minimum amount of rough surface for the lodgment of dust. Diphtheria bacilli placed on it were effectually killed. The paper was not loosened from the board to which it was pasted after applying soda solution and other solutions. Dr. Lee did not desire by presenting this statement of the bacteriologist to commit the State Board of Health or the Associated Health Authorities to an endorsement of this sanitary wall paper. He had himself experimented on a portion of this paper which had been applied to a wall for a period of two months, and found that it could be washed with hot water and soap without injury. It must be observed however, that in each trial the paper was comparatively new. In order to entitle it to entire confidence it will be necessary for it to stand the test of time. If it proves equal to this test, it will certainly be a boon to the public.

At the evening session, Dr. W. CAMPBELL POSEY of Philadelphia read a paper on

THE PREVENTION OF CERTAIN DISEASES OF THE EYES IN CERTAIN CLASSES OF SCHOOL CHILDREN.

He explained the structure of the eye in language suitable to those who were not learned in anatomy, the factors in distinct vision, and the effect of a lower vitality in causing diseases of the eye. A frequent cause of certain diseases was scrofula due to poverty, and insanitary surroundings. These resulted in corneal troubles, ulceration, often continuing to the total loss of sight. Such cases with the best skill fail to get well until removed to better sanitary influences. Especially is this the case during the summer months, but remove them to the country or, better, the seashore, and the result is magical. A few weeks at the seaside produces wonderful improvement.

Dr. J. G. SHOEMAKER of Phoenixville read a paper on

SOME OF THE TROUBLES OF A COUNTRY BOARD OF HEALTH.

Some boards have proven themselves very efficient, while others are but moderately so, and others have been thoroughly inactive. The board with which he was connected now for five years had operated vigorously; still difficulties are met which hamper its work and test the temper of the members. Each year brings some innovation and the opposition increases in proportion. His board had adopted the plan of being sure from a legal view, then pushing to a termination. In a small town like Phoenixville (8500 inhabitants) personal friendships and business interests claim consideration, when an ordinance is about to be enforced. A board must be sweeping, regardless of all but the right. Physicians as a rule are jealous of the work, hence no board should be composed entirely of physicians. Otherwise the health laws can not be rigidly enforced. His board had been accused of interfering with the business of the doctors. This was a compliment. Measles appeared, early in 1896. Isolation was practiced, affected families were kept from access to the schools, at once a furore was raised that measles are so simple that quarantine was needless. The epidemic went on to 200 cases, why? Many did not have any medical attendance, but in many cases certificates of health were furnished by physicians long ere it was safe for the return to school, and thus others were affected. Measles is one of the most contagious diseases, often the most fatal from bad management, and many cases of eye or nose or throat disease result. The restrictions in this disease are rarely enforced. Otherwise we think there would be fewer deaths from pneumonia, which frequently carries off the little patient. If statistics could be correctly obtained, we believe the deaths from measles would equal those from scarlet fever. Statistics are a great source of trouble to the borough boards. The vaccination act produced a great deal of trouble. Friends and enemies on all sides protested against it. The school board coöperating received its share of the odium. The homeopathic physicians openly preached against vaccination, circulated literature against it and finally adopted the plan of giving a course of treatment and vaccinating the patients in the stomach with virus much diluted in medicine, after which they gave certificates of successful vaccination. These were accepted by our board as better than exciting too much opposition at first. From our view compulsory vaccination has been a success. All but six pupils of the public schools have presented certificates and these six were excluded from attendance. In the parochial school all were vaccinated. In the private school all save two complied with the law. These are attending in direct opposition to the law and a test will be made in the near future. In the Sabbath schools poorer results have been found. The Act of 1893 requires "that it shall be the duty of the president of lower council or burgess to appoint one member annually, to serve for five years," etc. This is well when this officer is a man of broad and liberal views, but where he is of the fogy type and represents obstruction to the advancement of new ideas it is wrong. Our president is of this class, so when the term of Mr. Lippert expired, in the face of a petition signed by all the prominent professional and business men of the town, asking for his return, he refused to make the appointment, and offered in his place a man who would be of no use. This simply to impair the efficiency of the board which he denounced as a "humbug." The members of the lower council refuse to confirm the appointment, and as the term of the president is out and he has not been renominated, there is hope of a better state in the future. The local board should always remember that it is a legal body, and should make a determined stand when it makes a decision and generally the council will finally agree. Still these bodies are jealous of the health board and obstinately fight against paying bills. Thus our council refused to pay the bill for vaccination; and to avoid trouble all physicians were appointed, supplied with virus, and offered the sum of 25 cents for each successful vaccination. Forms were supplied each to make returns with affidavits. This with advertisements of the Act made a bill which the councils objected to, but finally paid. We were free from contagious diseases. At the same time diphtheria raged without our borders. Our death rate for the year 1894 was 17 per thousand, 1895, 15, and for 1896, 17. The milk inspection inaugurated in 1893 was very gratifying, better milk was secured, and the dealers in watered milk were driven away. The difficulty is to prove that dealers "knowingly" sell adulterated milk. With a better law more can be accomplished. The work of the board is becoming easier. We are gaining the respect of the better classes and with more money could secure sanitary plumbing, a filtering plant and garbage crematory.

At the session on Tuesday, Dr. BENJAMIN LEE, Secretary of the State Board of Health, read a paper on

THE NEW DISINFECTANT, FORMALDEHYDE.

For a number of years, physicians and curators of medical museums have been using a preparation known as a solution of formic aldehyde, or formaldehyde, for the purpose of preserving anatomic specimens. For this purpose it is superior to alcohol. A solution has been placed upon the market under the name of formalin, and other proprietary names. It usually contains about 4 per cent. of the pure substance. All health officers are familiar with the evils resulting from sulphur fumigation, in its injurious effects upon articles of furniture and clothing, the tarnishing of all metallic surfaces, the changing of color and even actually bleaching the tissues. So serious have been these objections that many health boards have given up its use, depending entirely upon solutions of bichlorid of mercury, carbolic acid and other liquid disinfectants, which can be supplied either as a spray or wash. When, therefore, it was suggested that the substance just named was not only a preservative of animal tissue, that is to say, an antiseptic, but also a powerful germicide, and that it possessed in addition a remarkable power of destruction, sanitarians had their hopes raised that a gaseous disinfectant had now been found which was entirely free from the objections just named. It is true that like sulphurous acid, it is irritating to the lungs, but by no means to the same extent, and that while, after the use of sulphur, it is impossible to inhabit the room for one or more days, after the use of formaldehyde, the atmosphere quite rapidly returns to its normal breathable condition. At the Denver meeting of the American Public Health Association, in 1895, Dr. Kinyoun of the Marine-Hospital Service made remarks indicating the strong probability of the usefulness of this material, in the manner indicated. As the word is a new one to any but chemists, it may not be amiss to indicate the manner in which this name was formed, as this will assist in impressing upon the mind the character of the material and its generation. An aldehyde is an alcohol from which a portion of its hydrogen has been removed; that is to say, a dehydrogenated alcohol. Now, by taking the first syllable of alcohol and the first two of dehydrogenated, it will be observed that we form the name aldehyde. The aldehydes are very easily changed into acids, and the different aldehydes are named from the acids into which they change. That is to say, an aldehyde which results from the formation of formic acid is called formic aldehyde. We drop the last syllable of formic and have the word formaldehyde. The alcohol from which it is made is known to chemists as methyl alcohol, and is made from the dry distillation of wood. In the arts it is known as wood or spirit of wood alcohol, and is a very cheap form of alcohol. It is quickly changed into the vapor formaldehyde by heating in contact with platinum over the wick of an ordinary spirit lamp. If the lamp be lighted and quickly extinguished the platinum, having been heated to a cherry redness, will continue to glow as long as there is any alcohol to be evaporated. In this process the formaldehyde will be constantly generated. Many lamps have been invented for the purpose of generating formaldehyde in quantities for disinfection. At the last meeting of the American Public Health Association, 1896, two generators were described. One by Dr. F. C. Robinson, Professor of Chemistry at Bowdoin College, whose experiments were made at the instance of the State Board of Health of Maine. The lamp or generator was made with the object of generating the gases with the greatest rapidity as owing to the fact that it is when hot about the same specific gravity of air. It readily escapes from cracks or crevices, and must be obtained in a comparatively dry condition. The lamp consists in a disk of moderately thin asbestos board perforated by small holes and platinized by the use of a strong solution of platinic chlorid. This disk is placed over a shallow dish partly filled with wood alcohol. The disk is wet with wood alcohol, held in a pair of forceps or small tongs, removed from the dish and quickly lighted. By the time the alcohol burns away, the disk will be so heated that when placed over the dish it will continue heated and change the alcohol into formaldehyde. The dish being of proper depth and sufficiently loose for the admission of air, the disk keeps at the necessary heat to produce the evaporation required. The experiments of Dr. Robinson were made in a room containing about 3,000 cubic feet of air space and having three large windows with very loose sash. In about three hours and a half the evaporation of from two to two and one-half quarts of alcohol resulted in complete sterilization of diphtheria and typhoid cultures. All parts of clothing, including seams, insides of pockets, etc., were sterilized in every part of the room. The typhoid bacillus was destroyed even when buried half an inch deep in sand. The cultures of diphtheria and typhoid were embedded in bed clothing, pillows and mattresses, and were killed by the use of two quarts of alcohol, in seven hours. It is desirable in its use that each room should be treated separately, rather than that a number of rooms or a whole house be disinfected at once. Any ordinary living room would require at least a quart of alcohol. With three lamps such as Professor Robinson exhibited, he disinfected a house of sixteen rooms, using ten gallons of alcohol.

The other method was presented by E. A. de Schweinitz, Ph.D., M.D., Chief of the Bio-Chemical Laboratory, Department of Agriculture, Washington, D. C. His experiments were rather with reference to the destruction of animal parasites, and for this purpose he found it admirably suited. The amount generated in a given time by this method is not as great. An ordinary lamp wick is used, which may be round or flat, and to the top is attached by a wire a piece of sheet asbestos about 1½ inches long. The asbestos is impregnated with platinum and copper, or with one of these alone. This wick is placed in any ordinary lamp it will fit. The lamp is filled with wood alcohol and the capillary attraction of the wick draws up sufficient alcohol to generate the gas. A lamp with a central draught gives by far the best results. The lamp is lighted, allowed to burn a minute until the asbestos begins to glow with a cherry-red heat; the flame is extinguished, the asbestos maintains its heat while the alcohol remains. Dr. de Schweinitz said: "The fact that this gas and its solutions are practically without injurious effect upon metal, wood or clothing, and most colors, and the minute amount required to secure the destruction of bacteria, make formaldehyde practically the best gas known for disinfecting purposes." But the most perfect form of generator has not yet been devised. A convenient portable apparatus for this purpose, is offered by a New York house, who claim for it a capacity for disinfecting a room of one thousand cubic feet capacity. The 40 per cent. solution already referred to may be used for washing walls or furniture and may be also applied as a spray. It is very volatile and if allowed to evaporate in a room will unquestionably sterilize the atmosphere, but it is doubtful if a sufficient quantity of the formaldehyde will be generated with sufficient rapidity to deeply penetrate the clothing and furniture. A 1 per cent. solution has been demonstrated to be sufficient to destroy the germs of anthrax in fifteen minutes, the material of course being submerged in the solution. One hundred parts of the 40 per cent. solution added to 3,900 parts of water gives a solution of this strength. Undoubtedly at an early date we shall be able to avail ourselves of this very valuable and unquestionable disinfectant.

The subject was freely discussed by many of those present.

A. M. Sloan, Esq., President of the Board of Health of Greensburg, read a paper on

SHOULD THE ERECTION OF SCHOOL BUILDINGS BE REGULATED BY ACT OF ASSEMBLY?

The matter was so exhaustively treated that but little could be said in debate. He believed there were breakers ahead of our educational ship, and as a faithful pilot he sounded the warning of dangers inside our beautiful intellectual structures. To turn out of the school on graduation day an intellectual giant with a diseased body and call such a man or woman was an absurdity. If there be anything in our school management that tends to produce disease of the body our first duty is its extirpation. Some of his deductions were: The percentage of near-sighted children when they enter school is less than 7 per cent., the number thus afflicted increases yearly until colleges and universities number among their pupils over 50 per cent. thus troubled. Evils existing in school buildings are to be remedied by legislation, not education, because school boards constantly changing are not usually judges of sanitary science. County superintendents have no knowledge of this subject and architects as a rule are ignorant of the laws of health.

The whole matter was referred to the Committe on Legislation, with instructions to prepare for presentation to this session of the Legislature the draft of an Act appropriate.

Prof. G. G. Groff of Lewisburg, a member of the State Board of Health, presented an able report on

THE TEACHING OF HYGIENE IN THE PUBLIC SCHOOLS.

There is increased interest in this matter, but as yet no improvement. The text-books are absolutely worthless. Every year there are at least 20,000 deaths among children by preventable diseases, yet not a word is taught the children as to what constitutes prevention. In the discussion it was asserted that no proper American book existed, and the books now in use were not only useless, but a curse to the schools. Some even urged that the teaching of hygiene be dropped from the curriculum. It was unanimously resolved that the subject be referred to the appropriate committee.

Among the reports of the several committees, that on legislation offered the draft of an Act to urge the Legislature to provide for the appropriation of money to pay the expenses of

the delegates from the borough boards of health in attendance at these sessions, and the cost of publication of the proceedings. This and several other drafts of Acts were referred to the incoming committee to prepare and present.

The subject of milk inspection was thoroughly discussed and Acts to that effect were also prepared and referred.

Allusion was made to the approaching meeting of the American Public Health Association in Philadelphia, in September, and an appropriation of the sum of $1000 was asked of the Legislature to aid in the extending of hospitalities to that body.

The officers elected for the new year were: President, Daniel H. Hastings, Governor, ex officio; first Vice-President, Crosby Gray of Pittsburg; second Vice-President, A. M. Sloan, Esq. of Greensburg; third Vice-President, Moritz G. Lippert, C.E., of Phœnixville; Treasurer, Jesse C. Green, D.D.S., of West Chester; Secretary, William B. Atkinson, M.D., of Philadelphia; Executive Committee, Benjamin Lee, M.D., C. P. Weaver, Norristown; A. H. Halberstadt, M.D., Pottsville; J. G. Shoemaker, M.D., Phœnixville; J. A. McLaughlin, Allegheny; W. B. Atkinson, M.D., Philadelphia.

This was perhaps the most important session of this Association yet held, and it is much to be regretted that so many of the local boards of health are prevented from being in attendance. This is due to the fact that many boards are not granted funds with which to pay the ordinary expenses of their boroughs and hence do not feel like paying an additional amount from their pockets in order to attend the sessions.

Chicago Ophthalmological and Otological Society.

Annual meeting held at the Chicago Athletic Association Rooms, January 12, 1897.

Dr. HENRY GRADLE in the Chair.

The Treasurer's report was read and adopted.

Dr. WM. T. MONTGOMERY was elected president; Dr. W. F. COLEMAN, vice-president, Dr. C. P. PINKARD, secretary, and Drs. BROWN, HOTZ and COLEMAN, committee on membership.

Minutes of the last meeting were read and approved.

Drs. J. W. Heustis of Dubuque, Ia., and Will Walter of Marquette, Mich., were elected members.

The secretary read a letter from Dr. Casey A. Wood in which he stated that the article in the *Chicago Times-Herald* of January 3 on the "Effect of Veils on the Eye-sight" had been published without his knowledge or consent, and was evidently a garbled copy of an article in the *Boston Medical and Surgical Journal.*

Dr. HENRY GRADLE demonstrated a patient with the rare combination of one-sided paralysis of the motor oculi nerve in all its branches with typical Argyll-Robertson pupil of both eyes.

The rest of the meeting was devoted to a discussion of "Asthenopia not due to Refractive Errors." (See page 447).

C. P. PINCKARD, Secretary.

Department of Public Health.

Senator Gallinger has introduced in the Senate the Bill proposed by the Second Pan-American Medical Congress. The Bill is Senate Bill No. 3652, and is accompanied by the official report of the United States Committee of the Medical Congress, as read in Mexico November last.

REPORT OF COMMITTEE OF THE FIRST PAN-AMERICAN MEDICAL CONGRESS ON DEPARTMENT OF PUBLIC HEALTH FOR THE UNITED STATES.

Mr. President and Fellow-Members of the Second Pan-American Medical Congress:

I have the honor to make the following report from the Committee on Department of Public Health for the United States:

The First Pan-American Medical Congress, in general session at Washington, D. C., Sept. 8, 1893, unanimously adopted the report of the International Executive Committee, which embraced the following, viz.:

Resolved, That in conformity to general regulation 5, the International Executive Committee hereby authorizes the appointment of the following international American committees, viz., . . . under which resolution, among others, a Committee on Department of Public Health was appointed, whose duties were defined as follows:

"*Committee on Department of Public Health.*—A committee consisting of one member from each constituent county or colony, whose duty it shall be to coöperate with the object of placing the care of the public health in charge of experienced and educated medical men, and to secure the establishment in each of the several Governments of a Department of Public Health, with parity of voice and influence in national and colonial councils and with independent executive authority under limitations common to other Departments in the same Government. Each member of this committee may, at his discernment, appoint such coadjutors resident in his respective county or colony as may be required to carry out the purpose of this committee."

The International Executive Committee under the following resolution,

Resolved, That the ex-officio President of the International Executive Committee shall appoint the president of each of the foregoing committees from among those appointed as members of the same, and that the president of each committee shall appoint the secretary of his respective committee from among either the members or the coadjutors of the same,

appointed Dr. Henry L. E. Johnson of Washington, D. C., president of this committee, and he, with authority duly invested, appointed Dr. William Pepper of Philadelphia, Pa., and Dr. Charles A. L. Reed of Cincinnati, Ohio, coadjutors to the said committee, and Dr. H. L. E. Johnson of Washington, D. C., secretary *pro tempore.*

In conformity with the fifth resolution covering the special committees, which says, "The president of each committee shall prepare a final report of the detailed work of his respective committee and submit the same to the Second Pan-American Medical Congress," the President, on behalf of the Committee, makes the following report:

We recommend the adoption of the following draft of a bill to be made a law by the Congress of the United States, to-wit:

A BILL TO ESTABLISH A DEPARTMENT OF PUBLIC HEALTH.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, There shall be established a Department of Public Health. There shall be appointed by the President from the medical profession, by and with the advice and consent of the Senate, a Secretary of Public Health, who shall be intrusted with the management of the Department herein established. He shall be paid an annual salary of $8,000. There shall be appointed by the President, with the approval of the Senate, an Assistant Secretary of Public Health, at an annual salary of $5,000. The Secretary of Public Health shall, with the approval of the President, provide suitable offices for the Department, and shall employ such assistants and clerks as may be necessary.

SEC. 2. That it shall be the duty of the Secretary of Public Health to obtain through all accessible sources, including State boards of health, municipal authorities, and the Surgeons-General of the Army, Navy, and Marine-Hospital Service of the United States, weekly reports of the sanitary condition of all ports and places within their territories and departments, and he shall publish weekly abstracts of the information thus obtained and other pertinent matters received by his department. The said department also shall, as far as possible, by means of the voluntary coöperation of State and municipal authorities, of various general and special hospitals, sanitariums, public associations and private persons, procure and tabulate statistics of marriage, births (noting those that are illegitimate), stillbirths, with cause thereof, and period of utero-gestation, and deaths from epidemic, endemic and all other diseases, specifying those of a degenerative character, such as malignant growths and affections of the nervous, circulatory, respiratory, secretory, digestive and reproductive organs, and from violence, accident, suicide, murder, and data concerning the fruit of consanguineous marriages and the transmissibility of insane, alcoholic, syphilitic, nervous and malignant types of constitution to offspring, and to evils of race miscegenations. He shall also procure information relating to climatic and other conditions beneficial to health, and especially in reference to the most favorable regions in the United States for the cure or relief of chronic diseases, particularly consumption. He shall also procure information as to the prevalence and ruinous effects upon the body and mind of intemperance and prostitution. He shall endeavor to ascertain the extent, the origin and classification of insanity in the several States and Territories of the country. He shall investigate the state of comfort of the laboring classes in respect to their lodgment, their trades, occupations, the healthfulness of their workshops and the contents of the atmosphere they habitually breathe, and the prevalence of premature degeneration of the nervous and muscular system by the exactions of piecework employment. He shall obtain information in regard to the soundness

of their food and purity of water supply. He shall ascertain the ages at which the children of the poor are put to work and its hindrance to their physical development, and their lack of common school education. He shall seek, through the State boards of health, information of the hygienic state of public school buildings respecting their illumination, ventilation and presence of noxious elements in the circumambient air. He shall seek information in regard to the pollution of streams and navigable waters and public and private wells. He shall attempt, through the coöperation of the authorized medical schools in all States, to promote the most extended and thorough training of students in order to fit them for the responsible duties that devolve upon practitioners of medicine. He shall, whenever an epidemic disease is spreading abroad, or in any country which by commercial or other relation may endanger the health of the inhabitants of the United States, have power to call a conference of the Surgeons General of the Army, Navy, and Marine-Hospital Service and the executive officer or officers of the various State boards of health throughout the country to consider and advise with him in regard to the best methods to pursue to protect the country against the invasion of any such epidemic disease, and the results of such conference shall be, by the secretary of public health, communicated to the President and his Cabinet for such action as they may deem wise and expedient. Besides the reports of the state of the public health which he shall make from time to time, the secretary shall make an annual report to Congress, with such recommendations as he may deem important to the public welfare, and the report if ordered printed by Congress, shall be done under direction of the department. The necessary printing of the department shall be done at the Government Printing Office, upon the requisition of the secretary, and in the same manner, and subject to the same provisions as that of other printing for the several Departments of the Government.

SEC. 3. That the President is authorized, when requested by the secretary of public health, and when the same can be done without prejudice to the public service, to detail officers from the several Departments of the Government for temporary duty, to act under the department of public health to carry out the provisions of this act, and such officers shall receive no additional compensation except for actual necessary expenses incurred in the performance of such duties. When a detail of such officers can not be made, the secretary, approved by the President, may employ such experts, and for such time and in such manner as the funds at the disposal of the department may warrant.

SEC. 4. That to defray the expenses in carrying out the provisions of this act, the sum of fifty thousand dollars, or so much thereof as may be necessary, is hereby appropriated, to be disbursed, with the approval of the President, under the secretary of said department.

SEC. 5. That this act shall take effect sixty days after its passage, within which time the secretary and assistant secretary may be appointed.

We further recommend—

The passage of uniform national and State laws regulating the importation, exportation, sale, inspection, and standard of meats, fruits, and food stuffs, water supply, ice, milk, and beverages, prohibiting adulteration and providing adequate penalty for violation.

The passage of uniform laws, national and State, regulating the manufacture, importation, exportation, and sale of drugs and chemicals, with provision for their inspection, and penalties for their adulteration. And a further provision requiring the labeling with exact formula all proprietary medicines and compounds, and providing penalties for violation.

The passage of uniform laws, national and State, regulating the sanitation of railroad cars, both steam and street, barges and ships, steam and sail, public vehicles, ambulances, laundries, slaughterhouses, morgues, hospitals, and dispensaries, jails and reformatory institutions, with penalties for violation.

The passage of uniform laws, national and State, regulating the hygienic management of contagious diseases, personal and house quarantine, vaccination, hygiene of dentistry, barber shops, public baths and gymnasiums, amusement halls, migration of tramps and profligate persons, disposal of dead bodies, garbage and sewage, draining of land and removal of weeds and decaying vegetation, and providing penalties for violation.

The passage of uniform laws, national and State, providing for and regulating disinfecting plants, steam, dry heat and chemical, for mails, foreign and domestic, clothing, bedding, money, persons, etc. Bacteriologic laboratories, animal industry and inspection plants, State and national hospitals, and retreats or sanitariums for the treatment of habitués, inebriates, venereal, tubercular and insane persons, with special laws for commitment to and discharge from the same. District nursing for the poor, sick, obstetrical, contagious diseases, etc.

The passage of uniform laws, national and State, providing for the appointment of State and national medical experts and the punishment of medical crimes.

The passage of uniform laws, national and State, regulating State and interstate medical, surgical and dental practice, which will protect the same as a science and not as a trade.

We further recommend adequate appropriation of money by the several States and the General Government for the scientific investigation of public health matters in this and foreign countries, and the suppression of diseases, endemic and epidemic.

We further recommend that appointment to and the tenure of medical offices shall depend upon professional ability and efficiency, and not upon political influence.

Respectfully submitted.

HENRY L. E. JOHNSON, M.D., Washington, D.C.
President Committee on Department of Public Health.
WILLIAM PEPPER, M.D.,
CHARLES A. L. REED, M.D.
Coadjutors.

Report accepted by the second Pan-American Medical Congress in general session, Nov. 19, 1896, at Mexico City, Mexico.

NOTE.—The Committee of the AMERICAN MEDICAL ASSOCIATION, of which Dr. U. O. B. Wingate is chairman, is also engaged in the preparation of a bill for a Department of Public Health, which will be introduced at the Special Session of Congress.

PRACTICAL NOTES.

The Tuning Fork as a Therapeutic Appliance.—E. N. Malioutine of Moscow announces that the tuning fork, struck and applied to the vertex, transmits its vibrations to the vocal chords, and causes them to vibrate in unison. He cured in this way, with vocal exercises, a case of hysteric aphonia that had resisted all other treatment, including suggestion. He adds that the process might be found effective in training and improving the voice of singers.—*Semaine Méd.*, January 20.

Jacksonian Epilepsy Cured by Suggestion.—An interesting case is described in the *Semaine Méd.* of January 20, the complete cure of severe cephalalgia with frequent epileptic attacks resulting from the fall of a flower pot on the head of a young man five years before. Professor Spehl (Brussels) suppressed the bromid treatment that had been used previously, and suggested to the patient that his attacks were diminishing and the cephalalgia less, following this in a few days by the command not to let them occur again, uttered in severe tones. There has been no attack since and the headache has also disappeared. It is too early yet to state whether the cure is permanent.

Success of Antipyrin in the Treatment of Nephritis.—Modinos of Alexandria, Egypt, describes in the *Gaz. d. Osp. e d. Clin.* of December 20, several cases of nephritis successfully treated with one gram of antipyrin each twenty-four hours (0.75 to 1.25). He considers himself justified in emphasizing the value of antipyrin in nephritis. Administered in small quantities, it causes the decrease and final disappearance of the albumin from the urine. The general health improves as the albumin disappears, showing improvement in the renal infection. He ascribes the improvement to the neutralization of the toxic constituents of the urine, owing to some special affinity of the alkaloid.

Effect of the Thyroid Products on the Female Pelvic and Thoracic Organs.—Hertoghe of Antwerp has found that the continued administration of the thyroid extracts exerts a depressing effect upon the functions of the pelvic organs and a stimulating effect upon the lacteal glands. In every case menorrhagia was cured by them and menstruation became normal, while the lacteal secretions were remarkably increased. He confirmed his observations experimentally by administering to a milch cow eighteen to thirty-six thyroid tablets a day, and noting the amount of milk secreted. For fourteen days before the

experiment, the cow yielded an average of 11.50 liters; for the first ten days after the thyroid tablets were given her, the average rose to 12.55 liters, and from the tenth to the twentieth day, the average was 13.80 liters. He also found it effective in arresting hemorrhage of the pelvic organs. He recommends it for all congestive disturbances in the pelvis. He gives one B. W. tablet a day, increasing to three.—*Cbl. f. Chir.* January 9, from *Bull. de l'Acad. de Méd. de Belgique.*

Surgical Treatment of Hypertrophied Prostate.—Herhold in the *Deutsche med. Woch.*, January 14, adds three new cases to the forty-one on record (resection or ligature of the vas deferens) to date. Thirty were entirely relieved of their troubles, a proportion of 75 per cent. The operation is simple and is followed by no serious after-effects, except in the rarest cases, when there have been unfavorable complications present. Drézigné reports in the *Bull. Méd.* of January 3, twenty-two cases on which he performed resection of the vas deferens with notable improvement in each case. The effect seems to be the same whether the vas is resected or merely cut. No effect is produced by operating one side alone.

Incomplete Tamponing of the Nasal Cavities.—The Gottstein method of treating ozena with a tampon of cotton fitted into the nasal cavities, proves very beneficial as it prevents the formation of crusts and their fetid decomposition. But owing to the interference with the breathing, the tampons have to be frequently removed so that much of the benefit is lost. F. Bruck now suggests that tarletan instead of cotton be used; the patient can easily breathe through it and replace it with another piece when soiled, while it keeps the mucous surfaces moist and answers the same purpose as the cotton tampon. In severe cases it might supplement the Gottstein method—*Semaine Méd.*, January 20.

Phosphorus as Stomachic in Chloro-Anemia.—A. Casati has derived great benefit from phosphorus in the anorexia that so frequently and seriously interferes with the success of the different hygienic and medical measures employed to fight chlorosis and anemia. He administers it in capsules of phosphorated oil, each capsule containing 0.001 milligram phosphorus. The patient takes one capsule a day, adding a capsule every second day, until the maximum of five capsules a day is reached, when they are discontinued in the same gradual way, and the appetite is usually found completely restored. If not, the treatment is resumed after a ten days' rest. He also recommends the following formula for iron and arsenic treatment: Ferrico-potassic tartrate and Fowler's solution, each 4 grams; aq. dist. 12 grams. Five to ten drops of this mixture are to be taken in a little wine immediately before each meal.—*Gaz. degli Osp. e delle Clin.*, January 10.

"Modifying" Catheterization.—In an article in the *Presse Méd.* of January 13, Professor Guyon emphasizes the dangers that may and usually do follow the use of catheters introduced with force or even friction. There should be no friction, as the mere contact of the instrument with the walls of the urethra produces a vascularization sufficient in itself to modify powerfully the condition of the membranes and dilate strictures. He prefers the "bayonet" bougies with their eccentric curved ends, as they can be gently brought in contact with every part of the passage; and always uses a bougie several sizes too small, according to the usual acceptation. Friction and pressure are worse than useless, as they substitute a pathologic phenomenon for a regular physiologic action. The failures that result in practice are chiefly due to neglect or ignorance of this principle. If these means fail, then there is no resort but divulsion or urethrotomy, with preference for the latter.

Resection of the Trachea.—In the session of the Medical Society of Vienna, held Nov. 13, 1896, Föderl presented a 6 year old boy upon whom he had performed resection of the trachea with circular suture. The child's trachea had been cut entirely through just below the cricoid cartilage. The posterior wall had been sutured immediately and five days later the rest of its circumference was sutured except where a canula was kept in place. There was so much contraction in the scar that phonation was completely lost and symptoms of stenosis developed. Föderl performed tracheotomy low down, resected the scar tissue to the extent of 2½ cm., and brought the ends together by a circular suture. The result was perfect.—*Medical News*, January 2.

Effects of the Bromids in Continuous and Large Doses.—Dr. J. A. Hodges, in the *Maryland Medical Journal*, writes that it is difficult to determine what is a safe dose and that some effects of the bromids produce symptoms which are attributed to the disease and not to the remedy. The following is the summary: Increased irritability of temperament; depressed spirits with a tendency to moderate melancholia; impairment of memory and also of contractility of muscles; an irritant to the gastric mucous membrane; an aphrodisiac action; disturbed circulation; extraordinary susceptibility to toxic effects in cerebral lesions, etc.; a tendency to homicidal and suicidal impulses as well as a weakening of the nervous system. To all of these our own testimony may be added of an encrusted deposit upon the anterior tibial regions, brown and dense, which promptly disappeared with a clean detachment upon a suspension of the chemical. In the instance given the patient was a young girl, who continued for years the repetition on her own account of a prescription given when the bromid of potash was a somewhat fashionable remedy for epilepsy.

Injections of Artificial Serum in the Treatment of Dermatoses.—Prof. P. Tommasoli reports encouraging success in the treatment of chronic eczema, etc., with injections of artificial serum (sodium chlorid and bicarbonate) to stimulate the secretions and excretions and increase the vital energy of the organism. The injections (30 to 200 c.c.) were always well received and several cases of long standing promptly yielded to them. Among these was a case of senile genito-anal pruritus, dating from thirty years past cured with forty-four injections (8 liters of serum in all); a case of lichen planus, extremely pruriginous, yielded in thirty-six days to thirty-three injections, equal to 3 liters in all. Two cases of diffuse, symmetrical chronic eczema, were cured with twenty-two and twenty-seven injections respectively, and a case of generalized folliculitis was cured with twelve injections (scarcely more than a liter of serum). He tested the treatment in twenty cases, but it was ineffectual with fungoid mycosis, diathesic pruritus, pemphigus vegetans, lupus, syphilis and a few additional cases of eczema.—*Semaine Méd.*, January 20.

The Roentgen and Other New Rays.—The *Academy* thinks that a full list of rays should include seven items, which may be arranged chronologically as follows: 1. Kathode rays, existing inside an exhausted bulb placed in the path of an electric discharge, and demonstrated long ago by Crookes and others. 2. Lenard's rays, which are the kathode rays brought outside the bulb by means of an aluminum window. These rays are sensitive to magnetic action, and can be deflected by a magnet. They will also act on a photographic plate through many opaque substances. 3. Roentgen's rays, existing in combination with Lenard's rays, but not deflectable by a magnet, and possessing more pronounced powers of photographing the invisible. 4. Uranium rays, or the phosphorescent rays discovered by Becquerel to be given off by uranium and its salts, which are capable of acting on a photographic plate. They differ from Roentgen rays in the circumstance that they can be both refracted and polarized, and there is no doubt that these are transverse rays of a high ultra-violet order. 5. The glowworm's rays, which have recently been shown to have a faint photographic action through aluminum and through copper. 6. The rays emitted by phosphorus, which will penetrate black paper, but

not aluminum. 7. There are still possibilities of other undifferentiated rays existing within the compass of the Crookes' tube, for in an interesting experiment performed before the Royal Society, Professor Thompson showed that, during the course of exhausting a bulb, before the Roentgen rays made their appearance, some other rays appeared which were different from the others in this list.

Case of Poisoning from External Application of Ext. Belladonnæ.—Eichenberger describes the following case in the *Corr.-Bl. f. Schw. Aerzte*, No. 22. He prescribed for a woman of 64, after he had instilled 3 drops of a 3 per cent. solution of atropin into her left eye, ungt. ciner. 15.0 and ext. belladonnæ 1.0, to be rubbed into her forehead, about as much as a bean, morning and evening. Two days later she developed a typical case of acute atropin poisoning; pupils enormously dilated, violent mania, modified sensorium, palpitation of the heart, frequently imperceptible pulse, extreme thirst, difficulty in swallowing and burning in the throat. With repeated injections of morphin and the use of excitants such as injections of camphor and ether, strong coffee, etc., the patient gradually recovered. There were still 13.0 grams of the salve in the box, consequently in the five times that it had been used, 3 grams of the mixture, or 0.19 of the belladonna extract, had been applied in the course of the two days and a half, or 0.08 ext. bell. a day. This amount is not only far below the allowable dose for external application, but is below the maximal dose for internal administration. The three drops of the atropin solution first instilled must also be taken into account. The case can only be explained by a peculiar capacity of absorption on the part of the skin, combined with an individual intolerance of the drug.—*Therap. Woch.*, January 10.

Indications for Venesection.—Recent articles by Kroenig and Albu state that the indications for venesection according to their experience, and with the exception of chlorosis, they are agreed on all points. Kroenig has found small repeated venesections very beneficial in chlorosis. The medicines administered hitherto in vain assert their affect, and recovery is prompt. It is always indicated in cases of acute intoxication of the blood, either by the natural toxic products; carbonic acid, and uremia, or by poisons from without, which affect the circulation, such as carbonic oxid, illuminating gas and potassium chlorate. In apoplexy it is especially indicated, and if practised in the early stages often produces marvelous effect. In severe pneumonia also, it relieves and assists recovery to an astonishing degree. The cyanosis, dyspnea, etc., vanish as the blood flows. The overworked and insufficiently aided heart is relieved of part of its burden, and the medicines begin to take effect. Kroenig advocates venesection when all other means have failed, but Albu goes farther and prefers it to all other means for treating young, vigorous, sanguine persons in severe pneumonia with extremely elevated temperature, delirium, cyanosis, and feeble pulse. They also advocate this measure in diffuse capillary bronchitis, and in pneumonia with considerable displacement of the heart and secondary venous stasis. —*Presse Méd.* January 13, from *Berl. klin. Woch.* Nos. 42–43, 1896.

Twin Bearing and Prolificacy.—Before the Edinburgh Obstetrical Society, at the December meeting, the above subject was under discussion. Dr. J. W. Ballantyne read a paper on the "Causation of Twins as Illustrated by Some Clinical Histories." After giving the history of several cases he mentioned that of a woman who was one of a family of seventeen, no twins; one of her sisters had had triplets and another twins; she herself had had twenty-two children in eighteen confinements, viz., four times twins and fourteen single births. In all the cases referred to there was good evidence to show that the twins were of the binovular or dichorionic kind. He mentioned the association of twin bearing and prolificacy and deduced that the daughters of a woman who has borne twins are usually highly prolific, and conversely the mothers of twins are usually the daughters of specially prolific women. He mentioned the theory that the ovaries of the twin bearer resemble those of the fetus in the great number of Graafian follicles they contain. Pleural pregnancies result from the simultaneous rupture of several ovisacs and that this is a consequence of the existence of a relatively or absolutely large number of ova in the ovaries. Dr. Haig Ferguson mentioned the case of a woman who had seven children in three years, twice twins and once triplets. Dr. James Ritchie referred to a mother who had borne thirty-two children; it had been mentioned in an application for life insurance and he had verified the statement.—*British Medical Journal*, December 5.

Traumatisms of the Liver.—Terrier and Auvray contribute an important article to the *Revue de Chir.* No. 10, reviewing the various forms of traumatism that can happen to the liver and the surgical cases on record. These show a mortality of fourteen in forty-five cases (stabs and cuts, twenty with five deaths; gunshot wounds, fourteen with four deaths; contusions, eleven with five deaths). They remark that earlier operating might have saved some of the cases, by combatting hemorrhage and preventing local and general infection. In regard to the operation they recommend a large median incision with resection of ribs if necessary, combined with a transpleural opening if there is reason to suspect injury to the diaphragm. This allows the liver to be completely inspected, especially on its convex side, and the hilus, as well as the other abdominal organs. To arrest the flow of blood the results of the operations already reported and of the writer's experimental research proclaim the advantages of a deep, wide-embracing suture of the liver parenchyma with unpointed needles and thick silk, with ligature of the vessels, of course, when possible. If this is impossible on account of the depth of the wound or friability of the tissues, gauze tampons for two to four days with thermo-cauterization. Projectiles and foreign bodies should only be removed when this can be accomplished without further injury to the organ. Gauze tampons with drainage also seems the best treatment in cases where portions of the liver have been crushed. The abdomen and pleural cavity must be carefully cleansed of all blood, bile and secretions with gauze pads.

Ambulant Treatment of Fractures.—M. Haudek recently exhibited a child to the K. K. Medical Association of Vienna, who had fractured the middle third of the femur three weeks before, and had been treated by the application of a Hessing fracture splint apparatus the ninth day, a combination of splints, pelvic band and foot piece, made over a plaster cast of the limb in extension, applied over a tricot stocking, and a bandage wound from the toes up to prevent edema of the extremity. This apparatus allowed him the use of his limb so that he had not been confined to his room or bed at all. The time of recovery from a fracture is much shortened by this ambulant method of treatment. The callus formation and consolidation of the bone is much more rapidly accomplished, owing to better circulation, and any slight atrophy of the muscles is easily counteracted by massage. The ability to be up and about in the open air instead of remaining in bed, favors recovery; the appetite, digestion, etc., continue normal, while there is none of the depressing effect on the spirits of a long confinement. Any one who has ever treated a fractured limb in this way is soon convinced of its many advantages over the usual methods. The child could stand and walk, if led by the hand, without pain, immediately after the light apparatus was applied, and in a day or two could walk alone and even go up and down stairs. In sixteen days he could walk without the apparatus, and it was removed to allow this several times a day, with daily massage of the limbs. The joints were left free from the first.—*Wien. klin. Rundschau*, January 17.

Eucain.—One of the latest drugs which is now attracting attention is eucain, and although several American and German periodicals have recently contained notes upon its uses, no English investigations have been published until the *British Medical Journal* recently printed a very instructive and useful paper upon its use as a local anesthetic in the surgery of the throat, nose and ear. This article (which, by-the-by, is only a "preliminary communication," based upon an experience of thirty-two cases) is the result of the joint investigations of Dr. Jobson Horne and Mr. Macleod Yearsley in their clinic at the Farringdon General Dispensary and Lying-in Charity. Their communication first deals with the history of the drug, giving a short summary of the work done up to date, both as to chemistry, pharmacology and therapeutics. Their own experiences are then detailed, and unlike many modern investigators, they very wisely insist that, although they have so far formed a favorable opinion as to the merits of eucain, it is but tentative, and they withhold their final verdict until they have still further examined into the uses of the drug. The points to which they appear to have specially directed attention are: 1, strength of solution required; 2, rapidity, intensity and extent of anesthesia; 3, general and local action upon the circulatory system; 4, after-effects. Out of thirty-two cases they only met with three in which there were any ill effects, and these seem to have had ample cause for not blaming the drug. Some of their results appear to be somewhat at variance with those of other observers; they have, for instance, noted slight ischemia rather than hyperemia of the turbinated bodies after its use. They also direct attention to a point which does not seem to have hitherto attracted attention, namely, the occurrence of salivation after its use. If the value of eucain as a substitute for cocain for local anesthesia be established, general practitioners will hail with delight the advent of a drug which, so far as the general result of present experience goes, is credited with all the advantages of cocain without its disadvantages.—*London Medical Times*, January 23.

A Case of Addison's Disease Treated with Suprarenal Extract; Death.—Dr. Osler, in the December *Bulletin of the Johns Hopkins Hospital*, records a case of Addison's disease fatal during treatment with suprarenal extract. The patient, a female, aged 21, had been sick with her present ailment about a year. She often became suddenly dizzy, everything became black before her and she would have to catch hold of the nearest object to prevent falling. She states that these sudden weak feelings would come on also when she was sitting still. She had lost in weight in two years from 115 to 96 pounds. A A symptom, too, of which she complained a good deal was itching of the skin. She was a bright, intelligent looking girl, not much emaciated. She had no fever, and for the eleven days she was in hospital the temperature did not rise above 99.5 degrees, and the early morning temperature was often 97 degrees. There was anemia. The blood count on admission was 4,500,000 red per cubic millimeter, and on the 25th it was above 5,000,000. There was no leucocytosis, and the differential count gave polynuclear leucocytes, 33 per cent.; small mononuclear, 45 per cent.; large mononuclear, 12 per cent.; transitional, 2 per cent.; eosinophiles, 4 per cent. The condition of the skin was as follows: The scalp had a shining yellow color, the hair was dry and very coarse. The face had a yellow, dark color, with blackish brown splotches situated just above both eyebrows, across middle half of nose and involving the whole of upper lip. The eyelids and the inner canthi of the eyes were also very dark. The face showed from fifteen to twenty very small, almost black pigmented areas, some of which resembled moles. The abdomen, chest, back, legs and arms had a similar dark yellow-brown color. The areolæ of the nipples were large and deeply pigmented. Below and to the left of the umbilicus there was a bean-sized brown-black area. Both flanks were almost black in color. The backs of both hands were deeply colored, especially the joints and about the roots of the nails. No large leucodermic patches were present. There were a few patches of pigmentation on the buccal mucous membrane. The lungs were negative; she had no cough and no expectoration. The heart sounds were rather weak and not well heard. There was a venous hum in the right side of the neck. The pulse ranged from 76 to 96 and was regular. There was no enlargement of the liver or spleen, and there was no dilatation of the stomach. The examination of the lower abdomen was negative. There was no enlargement of the external glands. The urine was acid, amber colored, specific gravity 1015. On June 22 the adrenal glycerin extract was begun. It was made in the following manner: Fifty-four perfectly fresh pig's adrenals were finely chopped up and thoroughly mashed with pestle and mortar. They weighed 114 grams. To this 114 c.c. of pure glycerin was added and 114 c.c. of aqua chloroformi. This was allowed to macerate after thorough mixing for twenty-four hours. It was then strained several times through towels and twice through filter paper, the latter in a refrigerator. The last filtrate was a rather cloudy, reddish, thick fluid with a meat-like odor. About 200 c.c. remained after filtering, so that 3.7 c.c. represented one gland. The patient was started on ℥ss t. i. d.—2 c.c., or one-half a gland. On the day following the administration she complained of cramps in the lower part of the abdomen and slight headache, symptoms which she said she had frequently had on previous occasions. July 1, at 2:45 this morning she became very noisy, screaming and calling out, and the pulse was very weak. The temperature was 97.5 degrees. She became quiet again, but did not seem quite rational. At 8 o'clock she lay with her eyes half closed, breathing rapidly and noisily. The pulse at the wrist could not be felt. She would not protrude her tongue, and when aroused she became very restless and tossed herself about, throwing off the clothes. The pupils were of medium size and reacted to light. The heart impulse could not be felt; the sounds were very feeble, and the pulse was 128 to the minute. At times the respiration became extremely weak, almost sighing. A few minutes after this note was made the patient died suddenly. The autopsy showed both suprarenal glands were the seat of extensive caseous disease, chiefly in the form of nodules, which were partially calcified. There was no trace of normal gland tissue remaining. The caseous process extended beyond the limits of the gland into the adjacent lymph glands, which, though little enlarged, were also involved. Peyer's patches in the ileum were a little swollen, and the solitary follicles in the large intestine were somewhat enlarged. The left lung showed a thin, wedge-shaped, triangular area near the base with caseous nodules, some as large as a pea. At the right apex there was some thickening and retraction of the pleura covering an old caseous, partially calcified nodule and the pleura on this side was obliterated. There were no other tuberculous foci in the body. The heart looked normal. The first question which suggests itself is whether the toxic symptoms, of which this patient died, were due to the suprarenal extract. Addison's disease may prove fatal either by gradual asthenia, the result of the vomiting and diarrhea; by sudden syncope, which may occur at any stage of the disease; by extension, local or general, of the tuberculous process, and lastly by a sort of toxemia, in which the patient for several days may have nervous symptoms, such as this patient presented. In the *International Medical Magazine* for February, in which Dr. Osler has reported six cases of the disease, a patient of Dr. Mullins, at Hamilton, for forty eight hours before death had the following group of symptoms: a slight convulsion, which was followed by a dazed condition in which he did not seem to appreciate what was said, great feebleness and rapidity of the pulse, sighing respirations, cold hands and feet, and subsequently much restlessness, pulling at the bed clothes and tossing about from side to side. The symptoms were much the same as those of Dr. Osler's patient, and the extract should not be held to be responsible for them. The dosage was not excessive.

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It would greatly facilitate the prompt delivery of the JOURNAL to those members of the ASSOCIATION living in large cities, if they would kindly furnish this office with their street address in those cases where it is omitted from the wrapper of their JOURNAL, as we have been notified by the postmasters of the larger cities that second-class mail matter not having street address, would be placed in the general delivery to await call.

SATURDAY, MARCH 6, 1897.

THE MATERIA MEDICA COLLECTION OF THE SMITHSONIAN INSTITUTION.

A former French minister to the United States, is reported to have said that Washington, with one exception, has more essentials for a good dinner than any other place in the world, and that exception is the absence of good cooks. This Gallic remark, the truth of which all familiar with the National Capitol will admit, applies not only to gastronomy but to other things as well; for with all its fine collections, libraries, museums, and the like, there is in Washington a lamentable absence of some one to give concise, crystallized information, and the stranger in search of the same will find no one to give it, unless it be a few ignorant guides with purely mercenary motives. To be sure the functionaries of the various departments are, as a rule, civil and obliging; but it is most discouraging to be turned over to a small boy, as the writer was a short time since at the Patent Office, when looking for certain information regarding water motors. All the models were shown and the specifications, which it would take at least two weeks to read, were placed at disposal, but life being too short to get information this way, a letter addressed to a practical mechanic in New York brought by return mail what two hours' search in the Patent Office had failed to accomplish. Again, it is far from satisfactory to visit such a place, in quest of the latest information on any special subject, to be obliged to stop in a hot stuffy reading room occupied mostly by negroes who make it a kind of loafing place, and to be met by an ignorant clerk whose indifference, as a human machine, is the result of years of official discipline inimical to the requirements of civil life.

Perhaps the most notable exception to this state of affairs in the Capitol City is Professor OTIS T. MASON, the curator of the National Museum. No one in search of scientific information ever quits the Professor empty-handed or dissatisfied.

Medical visitors to the Museum, especially those interested in pharmacology, may observe and study the materia medica collection to their heart's content. Here an effort is made to expose all substances brought into relation with the diseased organism, having for their end or property the modification of this organism in the sense of healing. Specimens of medical forms and crude drugs in all varieties, commercial and botanical, represent the article as samples found in the markets, and these are supplemented by rare samples having notable peculiarities. Each specimen has its label giving special and condensed information, such as scientific and vernacular name, source, commercial variety, and other brief facts, and each group of specimens, arranged under one head, has a similar descriptive card. A colored plate of the plant from which it is derived is displayed with each crude drug, also a pressed and dried specimen of the flowering plant. Sections and magnified drawings, with a view to assist in identification and show physical characters, add to the completeness and accuracy of the exhibits; while official drugs and preparations and those not official nor found in any pharmacopeia, but which are or have been used as medicaments, help to complete the display.

The classification and grouping of the collection follows the order of fundamental elementary constituents, the primary divisions being that of inorganic and organic materia medica. With each elementary substance are arranged the chemic compounds of that element used in medicine and pharmacy, and the preparations of which that element, or any of its compounds, constitutes the fundamental ingredient. These preparations include the official ones of the United States Pharmacopeia; unofficial preparations not worth a place in the collection, and poisonous salts liable to be mistaken, on account of similarity of appearance, for those less active.

The vegetable products are classed according to the botanical affinities of the plant from which it is derived; the products of fermentation and distillation include the products of acetous and vinous fermentations, and the derivatives as well as distillates; while medicines of animal origin follow the zoölogic classification of the animal from which the crude drug is obtained.

To be thoroughly appreciated, the collection should be seen, since no amount of writing can convey correct notions of a display that each man sees through his own spectacles and from an individual vantage point.

It does not detract from the practical merits of this admirable collection to say that it represents much that is antiquated, obsolete, curious and unused in medicine at the present time. The therapeutist studying medicaments can hardly be expected to know all about ichthyology, because cod-liver oil is obtained from the *gaddus morrhuæ*, nor is the surgeon to be up in metallurgy, or be a master of cutlery, because his instruments are made of steel.

In this time of improved medical education, when laboratory, clinical and dead-house teachings, with improved hygienes, tend daily to make the administration of drugs the opprobrium of medicine, and much of the study of our own profession a mere meditation upon death. The mellowing influence of time only impresses us anew with the remark of the late Dr. LOOMIS, of New York, who was accustomed to say to his classes in his native and unaffected way: "You young men prescribe the drugs, but we old fellows don't believe in them."

SUBSTANTIAL GAINS FROM THE TWENTY YEARS' SANITATION OF BERLIN.

It is said of the city of Berlin that, in 1875, there were only fifty-seven houses connected with sewers, and the general mortality of Berlin was equal to 32.9 per 1,000 of the population. Ten years later the drainage of the town had been pushed forward with considerable energy. The teachings of Professor VIRCHOW had taken root in the minds of the people. The labor party gave energetic support, and as their voting power was daily increasing the sanitary regeneration of Berlin soon became an accomplished fact. In 1885 no less than 15,895 houses were connected with the sewers, and the death rate was down to 24.4 per 1,000, inhabitants. Finally, in 1895 the work of connecting houses with sewers and abolishing the ancient cesspools and pails had been pretty well completed. There were then over 22,000 houses connected with the sewers, and the death rate was only 19.4 (even lower than that of London for the same year, viz., 19.8 per 1,000). Thus in twenty years the death rate has been reduced by considerably more than one-third. Of course this is not due exclusively to the improved drainage, but it is quite safe to say that it is the principal cause of the great progress achieved. There are now but very few houses in and about Berlin not connected with the drainage system. Perhaps there may still be some houses in this condition, but they are rapidly disappearing, and it is calculated that soon they will have ceased to exist, and that about 23,000 houses will then drain directly into the sewers.

Berlin is situated upon a sandy plain, affording a deficient fall to the sewers. These are, therefore, not self-cleansing and imperfectly ventilated; in some districts they at times become water-logged so that there is great risk of the sewer gas escaping into dwelling houses, particularly as the closets are often placed away from the outer wall, and that effective trapping is not very scrupulously and strictly controlled. Nor is proper care taken that the number of closets shall be in proportion to the number of inhabitants. This grievance becomes especially flagrant when, as is so often the case in large centers, what was formally a private dwelling-house is converted into a factory or workshop. Under the presidency of Dr. CZADICK the Berlin workmen organized a Sanitary Commission. It was formed almost exclusively of workmen and had no official power whatsoever, but the reports resulting from the inspections made by this Commission show how much there is still to be done to improve the domestic hygiene of Berlin. As many as 200 people have been found working in a house where there are only two closets. To this must be added all those grave defects that are to be found in all large towns where poverty leads to overcrowding and where vice and drunkenness engender carelessness, dirty habits and general recklessness. Though Berlin suffers from all this, it must be recognized that very little of it is to be seen on the surface.

Next to the complete system of drainage the greatest sanitary advantage is the new broad streets which almost exclusively compose the great town. Considering the important position Berlin occupies in the politics of Europe, it is difficult to realize how modern a town it is. In ancient times Berlin was a very insignificant place, and even so recently as the Thirty Years' War its population, which had comprised 12,000 inhabitants, was reduced to 6,000. Under FREDERICK the Great (1740–86), the population rose to 145,000. After the peace of 1815 the population was a little over 200,000. With the development of railways the population naturally increased, and amounted to 496,000 in 1860. Then came the great historic period which resulted in the creation of the German Empire with Berlin for its capital. The population of the capital increased in due ratio to the increased power, first of Prussia then of all Germany. After the Austrian war there were 702,000 and after the French war more than a million inhabitants. Now there are a million and a half persons living in Berlin, so that the population has more than doubled in twenty years. Of course this gives to Berlin an enormous advantage over other towns. The great difficulty is always with ancient property—property which has acquired considerable vested interests, but which was constructed long before the laws of public health were known or enacted. Berlin, on the contrary, was built after the principal laws of health had been demonstrated and proved. It was therefore possible to prevent the repetition of the errors of the past, and this in some measure has been done. On all sides there are broad straight streets. The fronts

of the houses are swept by the passing winds and are bathed in direct rays of sunshine. This in itself suffices to mitigate a number of minor shortcomings. Then, so that the fullest possible advantage should be derived from these broad streets, they are kept marvelously clean. The army of scavengers is set to work with the method and the spirit of discipline and organization which make the strength of the German people. The general aspect of Berlin is therefore very impressive. As an English writer observes, "there is poverty always with them, but it does not show itself in public. In large English towns we see adult men and women going about in filthy, torn rags, looking very pictures of misery and degradation, who nevertheless probably obtain in the course of the year and in one way or the other, more money than the trim, well-brushed and well-clothed poor of Berlin. The German woman is a much better housewife than the British workman's wife, and she knows how to mend and patch clothes, so that, however old and poor the material, it always looks neat and clean. The man, thanks to his severe military training, brushes himself carefully and has always a trim look about him. The clean people in the clean broad streets give at once a healthy appearance to the town. At the same time there is a reverse side to the question. The Germans, if clean and neat in their clothes, are not so clean and neat in their persons. Even among the upper classes and in the best houses the English visitor is surprised to find that a bath room is quite an exceptional luxury."

Berlin being, as already stated, situated in the midst of a sandy plain, it has been easy to find, in the immediate neighborhood, soil suitable for the creation of sewage farms. More than this, sewer farms could be established not in one or two directions, but all around the town. Thus there are a series of farms both north and south of Berlin which receive the sewage water of the town. Corresponding with these farms there are nine pumping-stations, so placed that the difficulties due to the want of fall are reduced to a minimum. In the year 1892–93 at these pumping stations a total of 61,207,240 cubic meters of sewage, coming from 22,107 houses, was raised and sent on to the farms. This was equal to an average of 7.59 cubic meters per day per house. The total population served by this system of drainage was 1,550,038 persons, which is equal to 0.108 cubic meters each day per head. The cost of pumping was 655,481.06 marks, or 0.423 mark per head. The sewage arrives by gravitation to a very large well at the station, from which it is pumped up into the closed mains and sent on to the sewage farms. The highest point on the sewage farms is 24 meters above the pumping station, and the surface of the sewage in the well at the station is 3½ meters below the engine-room. The farthest point of the system of sewers that converge to this pumping station is at a distance of 5,300 meters and it is calculated that the sewage does not take more than two hours to reach the pumps from this the furthermost distance. In some cases the sewers are made of German hardware pipes; in other instances they are of cemented masonry, and large enough to admit a man to clean. In both instances the sewers are not self-cleansing. This is but natural, as the fall is in the majority of cases absolutely insufficient.

There are, under the ground, drains to carry away the water after it has been purified by filtering through the soil. This water goes to the neighboring water courses. At first there was an outcry raised that the rivers would be polluted and the fish killed. To meet this the authorities dug out a big pond, let the purified sewage water fill this pond, and stocked it with fish. Gold fish, carp and even trout lived and prospered here. This convinced the population of Berlin that there was nothing to fear from the purified sewage. So great was the success of the experiment that other ponds were constructed and now the municipality has added pisciculture to its many other productive enterprises. Near Weissensee there are several large ponds where fish are bred for stocking streams and for sale. The week previous to the writer's visit no less than 7,000 carp were taken from these waters and sold; some of them weighed nine pounds.

The question as to how far these farms are a nuisance and a danger to public health is still the subject of much controversy. Though there were but few cases of cholera in Berlin, itself, there were 22 suspicious cases on the sewage farms to the south of Berlin during the summer and autumn. Twenty of the patients were adults, and the disease was described as cholera nostras. A physician who lives on the spot, has written various reports in which he maintains that workers on the sewage farms drink the water from the drains and suffer from typhoid fever. Careful investigations have been made, and a full official report gives the very definite impression that there is no sufficient evidence to justify the assertion that the patients suffered from drinking the water from the drains in the sewer farms. Both in the north and south districts numerous bacteriologic examinations have been made. Not only was the water in the drains, that is, the purified water, free from the bacteria of typhoid fever, but so also was the raw sewage, when examined at its arrival at the farms. Nevertheless, it is recognized that the condition of the wells is far from good, and orders have been given to protect them more carefully from contamination by surface water. Orders have also been given to the workers on the farms not to drink the water from the drains. Apart from the question of contaminated water, it must be confessed that there are numerous pungent and very unpleasant odors. Of course, when raw sewage is thrown on the soil and comes

out of the pipe with great force, there is a general stirring up of its foul contents, which naturally causes very unpleasant odors.

Nevertheless, and though it is easy to criticise details, and though undoubtedly many defects exist, the broad fact remains that Berlin is drained throughout. There is a method of disposing of all the sewage. The death rate on the sewage farms is low in spite of occasional accidents, such as cases of typhoid fever and cholera nostras; but, above and before all, there is the great, grand result already mentioned, and which can not be repeated too often, that concurrently with the draining of Berlin the death rate has fallen from 32.9 to 19.4 per 1,000 of the population, a rate that indicates that Berlin of all the million-souled cities of the civilized world, in 1895 touched low-water mark in respect of a sanitarily depleted mortality. (London in 1894, however, touched an even lower point, namely 17.4 per 1,000.) Roughly computed this same low rate implies a gain in life-saving of between eight and nine thousand lives; or, in other words, had the rate of twenty years ago prevailed in 1895 a sacrifice of not less than 8,500 lives would have resulted, over and above the actual death-toll. Or, again, if a human life be appraised as worth to the state the average sum of $700, as the computation of some authorities is, Berlin was the gainer by not far from six millions of dollars in the year 1895. A handsome return that is, in part at least, to be claimed as flowing from the great public works carried out in the cause of sanitation and by sanitarians.

Continuing this train of illustration a step further, let us, *à la* PETTENKOFER, assume that there is a loss of 36 cents for each day's sickness, for medicines, nursing, etc. We will still further assume that each registered death means thirty-four cases of illness, averaging twenty days, *i.e.*, 680 sickness-days, whose cost will be $245, for each death. Applying this valuation to the deaths that did not occur, in 1895, as above computed at 8,500, there were 289,000 of Berlin's citizens spared from illness, and a saving in money-worth amounting to $2,082,500.

MUSIC AS A THERAPEUTIC RESOURCE.

"Sweet Music! Sacred tongue of God."
CHAS. G. LELAND—"The Music Lesson of Confucius."

One of the daily papers of Chicago gave an account in its issue of last Sunday of the trial on a large scale of music at the Eastern Illinois Hospital, to witness the effect if any on the insane.

The paper with a childlike simplicity says that to the musical director and the superintendent "belong the honor of making the first scientific experiment of this character in the history of medicine and music."

It is indeed quite probable that the experiment on so large a scale has not before been tried, as there were about 2,000 present according to the account, but the utility of music as a therapeutic measure has been known ever since DAVID played the harp to soothe the madness of SAUL, and ASCLEPIADES of Bithynia, at the height of his Roman popularity recommended declamation, laughter, chants and music in the treatment of disease in that early day—

"When music, heavenly maid was young
While yet in early Greece she sung."

The first systematic writer on legal medicine, PAUL ZACCHIAS (1620), recommended music in the management of insane, believing with CONGREVE that

"Music hath charms to soothe the savage breast,
To soften rocks, or bend a knotted oak."

NICOLAI, of the University of Halle, a disciple of HOFFMANN and of the iatro-mathematical school, sought to prove that the vibratory movements of the tympanum produced oscillatory movements of the nerves, which thus soothed the fiery brain.

HENRY WARD BEECHER, who, if not a physician, was yet learned in psychology, said that "music cleanses the understanding, inspires it and lifts it into a realm which it would not reach if left to itself." If we turn to that most wonderful of all collections on the subject of insanity, BURTON'S "Anatomy of Melancholy," we shall find that music is recognized as one of the potent means at the command of the alienist. "RHASIS, ALTOMARUS, ÆLIANUS, MONTALTUS, FICINUS FAVENTINUS," says BURTON, "are almost immoderate in the commendation of it; 'a most forcible medicine,' JACCHINUS calls it; JASON PRATENSIS, 'a most admirable thing and worthy of consideration that can so mollify the mind, and stay those tempestuous affections of it.' *Musica est mentis medicina mœstæ*, a roaring-meg against melancholy, to rear and revive the languishing soul; 'affecting not only the ears, but the very arteries, the vital and animal spirits, it erects the mind and makes it nimble, (Lemnius). This it will effect in the most dull, severe and sorrowful souls, 'expel grief with mirth, and if there be any clouds, dust, or dregs of cares yet lurking in our thoughts, most powerfully it wipes them all away.'" Numerous quotations with the quaint commentaries of BURTON follow, and he says, "besides that excellent power it hath to expel many other diseases, it is a sovereign remedy against despair and melancholy and will drive away the devil himself."

The writer of this article twenty-four years ago[1] reported a case of cerebro-spinal fever where the restlessness of the patient, who finally recovered, was controlled by the playing of a violin, and the patient slept sweetly under its power, soothed by the influence of music which

"Waves eternal wands
Enchantress of the soul of mortals."

The voice of antiquity while thus commending it, seems insensibly to have yielded much to the general power of music in making these concessions, but some of the ancients counseled caution; PLUTARCH affirm-

[1] New York Medical Journal, "Cerebro-spinal Fever," by J. B. Hamilton, XXI, 1875, pp. 113-126.

ing that music made more men insane than wine, and "THEOPHRASTUS prophesied," says BURTON, "that diseases were either procured by music or mitigated."

Educators have always recognized the value of music as a controlling influence in building up the mental strength of children.[2]

We can only add that in Illinois, the superintendent of the Institution for the Feeble Minded at Lincoln, Dr. MILLER, has long considered musical organizations the strong arms of the Institution, a senior band, an orchestra, a juvenile band, and a general chorus, have been organized from among the children with fairly satisfactory results.

But to be useful as an educational aid or as a therapeutic resource, the music must be carefully selected and adapted to the particular mental condition of the individual. The dancing mania of the middle ages was accompanied by a tune which, if anything may be inferred by a glance at the music as printed in Hecker, would make a lunatic of almost anybody.

SOME POINTS OF INTEREST TO THE MEDICAL PROFESSION IN THE REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1894–95.

In comparing the number of medical colleges and their attendance with the number of institutions and students in other professions; we find, as is expected, that medicine is far in the lead. There are 151 schools of medicine with 22,887 students, an increase of 1,085 students over the preceding year. There are 149 schools of theology with 8,050 students, an increase of 392; 72 law schools with 8,950 students an increase of 1,639; 45 dental schools with 5,347 students, an increase of 1,195.

A review of the preceding figures shows that the number of medical students is as great as that of all the other professions combined, but there is a marked disparity between the proportionate increase in the attendance of medical colleges and colleges of other professions. With far fewer institutions and students, both the law and dental colleges have gained more in attendance than the medical schools, showing that there is an inclination to leave the over-crowded profession of medicine to enter other fields.

Another point of interest is the gradual change in the center of medical education that is taking place. Comparing the statistics of 1888–89 with those of 1894–95, we find that the Chicago medical institutions have increased in attendance from 1,338 to 2,294, while the New York medical colleges show a decrease in the attendance, which has fallen from 2,081 to 1,893. Baltimore has almost doubled its attendance and now has 1,293 students. St. Louis now takes fourth place, having passed Baltimore, Cincinnati and Louisville; and it now stands fourth with an attendance of 1,399, while Louisville is sixth with 947 students, a decrease of 43. Philadelphia, which was over 500 behind New York in the first period, is now over 300 ahead with an attendance of 2,201, a gain of 686 over the figures of 1888–89.

There seems to be no special reason that will answer for the change in all these cases. Better clinical advantages, increased scientific advantages together with the westward trend of population will account for such progress as is seen in Chicago and St. Louis.

[2] "That she trained all to music, that real moonlight in every gloomy night of life; 'without poesy and art,' she added, 'the spirit grows weary and wooden in this earthly clime.'"—(Jean Paul F. Richter).

BRITISH MEDICAL PEERS.

The *British Medical Journal*, with that philistinism which makes it occasionally unreliable on the history of the English-speaking medical profession, remarks that Sir JOSEPH LISTER was the first medical man to be made a peer. Had the *British Medical Journal* added, "for medical reasons," it would have been correct, but as the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION pointed out (Vol. XXVIII), when urging the creation of medical peers, SMITHSON, the present family, which succeeded the proud PERCYS in the Dukedom of Northumberland, was founded by a medical man marrying the heiress of the PERCYS. Nor was SMITHSON the only medical man who became a peer. As JEFFERSON remarks (Book about Doctors): "More than once a physician has won admission into the *noblesse*, but the battle resulting in such success has been fought in the arena of politics or the bustle of the law courts." SYLVESTER DOUGLAS deserted the profession in which he commenced life, and after a prolonged servitude to political cliques of the House of Commons was rewarded with an Irish peerage and a patrician wife. On his elevation he was, of course, taunted with the humility of his origin and by none with greater bitterness than by a brother *parvenu* and and brother poet.

"What is this title to be," asked SHERIDAN, as he was playing a game at cards, "what's SYLVESTER DOUGLAS to be called?" "Lord GLENBERVIE," was the reply." "Good Lord," replied SHERIDAN, and then he proceeded with an impromptu that morning industriously prepared in bed.

Glenbervie, Glenbervie,
What's good for the scurvy?
But why is the doctor forgot?
In his arms he should quarter
A pestle and mortar,
For his crest an immense gallipot.

HENRY BICKERSTETH, Lord LANGDALE, was the luckiest of physicians and lawyers. He used the medical profession as a stepping-stone and the legal profession as a ladder, and had the fortune to win two of the brightest prizes of life, wealth and a peerage, without the humiliation of serving a political party. The second son of a provincial surgeon, he was apprenticed to his father and educated for the paternal calling. On being qualified, he became medical attend-

ant to an Earl of Oxford during that nobleman's travels on the Continent. Returning to his native town, he for a while assisted his father in his practice, but resolved on a different career from that of a country doctor, and became a member of Caius College, Cambridge, and studied mathematics with great success. As late as 1807, however, he was still consulted medically by his father. In 1811 he was called to the bar by the Inner Temple; from that time to his elevation to the Mastership of the Rolls, he was the most hard working and hard worked of the lawyers in the Equity Courts, to which his practice was confined. In 1827 he became a Bencher. In 1835, although a staunch, zealous liberal and strenuous advocate of JEREMY BENTHAM'S opinions, he was offered a judgeship by Sir ROBERT PEEL. This he declined, though he fully appreciated the compliment paid him by the Tory chieftain. In 1836 he was made, by the Liberals, Master of the Rolls and created a peer of the realm, with the additional honor of being a Privy Councillor. He died at Tunbridge Wells in 1851, in his 68th year. It would be difficult to point to a more enviable career in legal annals than that of this medical lawyer, who won the most desirable honors of his profession without ever sitting in the House of Commons, or acting as legal adviser of the Crown, when he had not been called quite twenty-five years. A romantic element in the picture is that Lord LANGDALE after rising to eminence married a daughter of that Earl of Oxford to whom he had formerly been traveling medical attendant. The Lord PLAYFAIR, to whom the *Medical Record* lately referred, is not a medical man. Lord KINNEAR is therefore the first medical man made a peer for professional eminence.

CORRESPONDENCE.

Monopolistic Control of Medical Literature.[1]

PHILADELPHIA, Feb. 20, 1897.

To the Editor of the Medical Record:—In your editorial columns (issue of Feb. 13, 1897, pp. 234-5) you permit a letter to be published as your own ("Both editors and publishers") which is so diametrically opposite in view to that you personally gave myself (in company with Dr. Pyle) when calling upon you that I must beg for a word of explanation in reply. Where is now your "dead line" across which you repeatedly said your publishers could not go in control of your editorial utterance? Moreover, who are the "editors" of the *Medical Record*? Your announcement cites yourself as the single editor. If there are others they should certainly be named, as the profession should know its members who take this attitude to professional interests.

And now, sir, of what use is it for you to allow such statements to appear in your columns as the following: That you would be "the last to countenance any action which might interfere in the slightest degree with the fullest and freest dissemination of medical knowledge." "The *Medical Record* has always allowed the free use of the original matter contributed to it for all reputable purposes, provided that due credit is always given to the original source of publication," etc., etc. Now, my dear doctor, you know this is all untrue, and that it is easily proved untrue.

Let me first attend to the insult conveyed in the words "reputable purposes." Of course you were fully aware of the intended inference and insult. Since your employer's refusal to allow the American Year-Book to use articles from your columns in its digests which you say is never refused for "reputable purposes," it follows plainly enough that all the editors of the American Year-Book are, in your opinion, engaged in a disreputable or non-reputable undertaking. We thank you for your high opinion of us, but can hardly agree with you. Neither does the medical profession, judging from appearances.

Let me make another quotation from your editorial: "The letter above referred to, while plausible on its face, is misleading in its intent, inasmuch as it implies that our course in this one instance might be considered as characteristic of our general policy, than which nothing is more untrue." This aspect of the affair is evidently worrying your publisher a great deal, and so he makes the most sweeping denials possible that he is not guilty of trying to prevent the dissemination of medical knowledge. The denial will avail nothing. American physicians have already decided that the American Year-Book is not disreputable and so long as you and your publisher keep your reasons absolutely hidden, you will be credited with a very evident and very sordid motive. Your contributors must smile derisively when they hear you say that you "would be the last to countenance any action, etc.," and yet in the same editorial you confess that they can not have their articles noticed in the Year-Book. Something more than stentorian proclamations of self-righteousness is necessary to deafen them to such wonderful logic.

What then will they say when they learn that this one instance is by no means single and that these same "publishers and editors" have for eight years persistently refused the same privileges to Dr. Sajous and his sixty-six editors of the Annual, a publication that has had to go on as best it could all these years, with the same denial on the part of the *Medical Record* publishers. Of course the Annual again by necessary inference is "disreputable," but, again also, the profession disagree.

Now, sir, as a physician you well know the wondrous service to the science, the art and the practice of medicine, rendered in Europe by the epitomes of the world's medical knowledge, Jahrbücher, Handbücher, etc. Their use is simply incalculable. Your publisher (and also you, since you pronounce his cause just) must yet settle with an outraged profession for refusing to allow the use of the gratuitously given literature over which the profession has unwittingly given you a legal control, and in the only two "reputable" and thorough going attempts to supply this want to English and American medical men.

And I can not see that our just indignation is softened any by the claim that this outrageous action is motived now on "personal," now on "sound business" reasons. It seems to me that such a claim makes your case all the worse before a *professional* jury, and that in making such a sorry excuse you confess that you are willing to harm the profession to any degree so that you satisfy some private grudge or financial aim. This is all the more noteworthy coming from a firm that has for many years in similar handbooks made most sweeping and wholesale use of all serial medical literature, not only that given gratuitously to lay publishers by the profession, but whole books and by the dozens. (See Dr. Murrell's letter in *British Medical Journal*, Oct. 11, 1890.)

I had intended not noticing the personal insult leveled at me. Despite your publisher's and your own great solicitude to reduce this controversy to "personalities," "peculiarities," and "sound business reasons" neither of these things has any

[1] This journal, believing in giving all sides a fair chance, publishes Dr. Gould's letter because, as he states, the *Record* refused to print it.

thing whatever to do with the whole matter. If your reasons are honorable, for Heaven's sake out with them! "If not a settled policy" we may be able to find more than nine years of history and two competing publications to prove it. I by no means intend that the principles at issue shall be allowed to be made confused by any such alarums to distract the enemy's attention. In the present instance your contemptible charge that I have no higher motive in this whole matter than to advertise a book of which I am one of 28 editors, and that I allow my publisher to use my editoral utterances purely as his advertising medium, is—well! What may a gentleman say to such an insult? I am perfectly willing to leave such impertinence to be answered by the three publishers with whom I have had close business relations and with the readers of the *Medical News*. Some men, my dear sir, are very prone to ascribe low motives to others, but the reason is proverbially known. Oh, no, the instances are too few, but they exist, of editors who are not the jumping-jacks of their publishers. No publisher could have forced into my editorial columns such an editorial as this of yours under discussion. Mr. Saunders had no hand in the writing of that circular, was not consulted about it, knew nothing about when, or where it was mimeographed, mailed, etc. It was solely and wholly my own work. He has no more knowledge concerning this letter. Instead of all this shameless trying to turn the issue and of all these blank denials, it would be far more to the point if you would explain to your contributors how it is not against their interests to refuse to allow their gratuitously given articles to be abstracted and illustrated in the only two (not in only *one* as you say) earnest attempts that have been made to get up in English something comparable to the immensely serviceable and necessary German Jahrbücher and epitomes of medical progress. Also please explain how it is your action does not prevent the dissemination of medical literature. If it does not do so the necessary inference is that your two journals in your own estimation contain nothing worthy of being thus used in a résumé of medical science and progress! Lastly will you not explain to the sixty-six departmental editors of Dr. Sajous' Annual, and to the twenty-seven gentlemen connected with the American Year-Book in what way these two publications are disreputable, or non-reputable? Are they not quite as reputable as your publisher's similar Handbook, etc., and his pirated whole books of our English colleagues republished without their consent, and sometimes against their command and to their financial loss, as in those instances when other American publishers would have paid them for the right to reprint had it been possible to guard against the American pirate?

I reserve a little clarifying discussion of your publisher's position until a later date. Cordially yours,

GEO. M. GOULD.

119 S. 17th Street.

Medical Ethics.

WICHITA, KAN., Feb. 10, 1897.

To the Editor:—I am informed, I think creditably, that one or more specialists in the west are offering as inducement to the profession for their patronage, to divide fees. In one instance there is a verbal agreement to give 25 per cent. I would like the JOURNAL'S opinion of the practice. To me it savors much of bribery, both parties sharing in the guilt, the specialists in large cities, like Chicago for instance offering the profession such inducements.

I might be tempted to do likewise if it was a case of bread and butter, but it seems to me my financial condition must be much straitened before I would even listen to the tempter. Perhaps I am wrong! Perhaps in the struggle for fame and fortune my patronage ought to go to the highest bidder but it seems to me I ought to be influenced entirely in dispensing patronage by fitness and merit. I do not care to have my name used in print in this connection. I should of course lay myself liable to the charge that I am influenced by jealous motives which is not the case. Should you decide to answer privately or through the medium of the JOURNAL, which I highly prize, I shall be pleased. I am fraternally yours, M.D.

ANSWER: The offering or giving any portion of a fee to one who procures cases for another is the worst possible means of obtaining practice. Both parties are equally guilty of a breach of honorable dealing. Such conduct is on a par with the acceptance by a physician of a percentage from an apothecary to whom he directs his prescriptions to be taken. So patent did this appear to those who framed the Code of Ethics that they did not deem it necessary to insert any clause in regard to it. W. B. ATKINSON, M.D.

PHILADELPHIA, Feb. 15, 1897.

PUBLIC HEALTH.

Invidious Discrimination Against the Profession in the Proposed Charter of the Greater New York.—Dr. Z. T. Emery, in his capacity of Commissioner of Health of Brooklyn, has addressed a communication to the charter commission regarding an undesirable discrimination proposed to be made against medical men by making it impossible for any one of them, however competent he may be, from becoming the head of the department of health. The text of the section of the now pending charter relating to the organization of the department of health reads as follows:

SECTION 1.—There shall be a health department whereof the head shall be the board of health. Said board shall consist of the president of the board of police, the health officer of the port and two officers to be called commissioners of health, one of whom shall have been a practicing physician for not less than ten years preceding his appointment. The commissioner of health who is not a physician shall be the president of the board and shall be so designated in his appointment. The commissioners of health shall, unless sooner removed, respectively hold their offices for four years, and until their successors shall be respectively appointed and have qualified, except the first commissioners, of whom the president of the board of health shall be appointed for two years, and the other commissioner for four years, and until their successors are respectively appointed and have qualified.

The remarks of Dr. Emery are, in part, as follow: "The first section provides that the head of the health department shall be a board, to consist of the president of the board of police and the health officer of the port and two officers to be called commissioners of health, one of whom shall have been a practicing physician for not less than ten years preceding his appointment. The commissioner of health who is not a physician shall be the president of the board and shall be so designated in his appointment. I desire to make emphatic protest; first, against making the head of the department of health a board composed of four members; and second, against the discrimination which is here made against the members of the medical profession by the provision that under no circumstances shall a physician become the president of such board. It is respectfully submitted to the commission that the head of the department of health should consist of one member, for the reason that in addition to the ordinary routine work of obtaining compliance with the laws and ordinances relating to public health, the duties of the health department consist largely in dealing with the emergencies which continually arise, affecting the welfare and lives of considerable portions of the community, and it is my observation that more prompt and efficient action can be obtained by a health department having a single head. Such emergencies demand immediate decision and action and do not admit of divided opinion and judgment, nor can they wait for a meeting of the board and an adjustment of differences of opinion. Further, I believe that

the head of the health department, being a single head and a commissioner, should be a practicing physician of not less than ten years' standing and should have had experience in sanitary matters. It is the experience of the health department of the city of Brooklyn, which has been presided over for the last sixteen years by a single head, that in legislative matters all of the advantages, to be derived from a multiple-headed commission, have been obtained by a single head, having properly chosen advisers and aids, and at the same time, the disadvantages and often discordant opinions of a multiple head have been avoided. If, however, it shall be determined in the wisdom of the commission to advise the establishment of a health department having more than one head, I respectfully suggest that these heads shall consist of men of acknowledged ability and experience in sanitary matters, and I believe the smaller the board the better, and in any case, it should consist of an odd number of commissioners instead of an even number, and one member of this board of three or more should be the health officer of the port. I consider it prejudicial to the best interests of the public health to inject into the constitution of the board of health, as ex-officio members thereof, persons who because of lack of training, knowledge and experience are not sanitarians. Inasmuch as medical men, as a class, by reason of their education and instruction and the necessities which arise in the practice of their profession, are especially trained in sanitary and hygienic matters, and further, because the best known sanitarians in the country belong to the profession, I respectfully urge upon your attention the injustice and unwisdom of discriminating against them as a class by making it a charter provision that the president of the board of health shall not be a member of this profession. With as much propriety a provision might be made that the presiding justice of the court of appeals should not be a lawyer."

The Bacteriologic Aspects of the Oyster Trade.—The Local Government Board of England has issued an important report upon the relations of oyster culture to disease in man. Dr. Klein was detailed to the bacterioscopic branch of the research, and has shown that the typhoid bacillus and the cholera vibrio retain their vitality in sea-water and has found the bacillus coli in oysters from dangerous ground, while they were absent from those taken from places free from risk of sewage contamination. Further, he has recovered the typhoid bacillus from the mingled body and liquor of oysters from a sewage-laden dock at Great Grimsby. Dr. Klein's study has not been concluded, and Dr. Thorne, in his presentation of the data already obtained, remarks that bacteriology can be trusted to indicate danger, but not safety nor purity; and that beside bacteriology, we must have in regard to the oyster trade information as to the conditions surrounding and affecting the culture and storage of oysters along our coasts. He indicates that the conditions necessary to the inception of disease by an individual arising from the consumption of oysters are numerous, and that they have all to operate in their several places and times to produce the result in man, hence the relative infrequency of disease attributed to molluscs. Again, the oyster seems to have the ability to free itself from its contained organisms in a short time when placed in waters free from contamination. Further, the assimilation of different microbes within the living oyster is rapid, while the typhoid bacillus does not multiply, and Koch's vibrio even tends soon to lose its physiologic properties. As to the local dangerous circumstances attending oyster culture and storage, these admit of remedy. There should be some supervision of beds, ponds and the like, but, on the other hand, storage prior to despatch to market of oysters, in water of unquestioned freedom from sewage pollution, seems to be necessary. Summing up the results so far ascertained, Dr. Thorne says the results of Dr. Klein's investigations which bear more immediately on the culture of oysters would appear to be as follows: 1. The cholera vibrio, and still more the typhoid bacillus, are difficult of demonstration in sewage known to have received them. 2. Both these organisms may persist in sea-water tanks for two or more weeks, the typhoid bacillus retaining its characteristics unimpaired, whilst the cholera vibrio tends to lose them. 3. Oysters from sources which appeared to be free from risk of sewage contamination exhibited none of the bacteria, specific or otherwise, which are commonly regarded as being concerned with sewage. 4. Oysters from a few out of numerous batches derived from sources where they did appear to be exposed to risk of sewage contamination were found to exhibit colon bacilli, a circumstance which, notwithstanding the comparative universality of this intestinal organism, may be regarded as having some significance by reason of the absence of this bacillus from oysters which appeared to have been exposed to no such risk. 5. In one case where the circumstances were especially suspicious, Eberth's typhoid bacillus was found in the mingled body and liquor of the oyster.

Notice of the Board of Health of the Village of Saranac Lake, N. Y.—

WHEREAS, The expectorated matter discharged by persons having any disease of the air passages (lungs, throat, mouth and nose) usually contains germs capable of communicating the same disease to other persons; therefore be it

Resolved, That the Board of Health of the Village of Saranac Lake does expressly declare that the indiscriminate discharge of such expectorated matter in any place where it may be the means of communicating disease to other persons is a nuisance dangerous to public health, and that this board does hereby adopt the following ordinance concerning expectoration:

Section 1.—All persons who expectorate in consequence of any disease of the air passages (lungs, throat, mouth and nose) are positively forbidden to spit or discharge such expectorated matter upon the floor of any house, store, church, schoolhouse, hall or upon any sidewalk or in any dooryard or other place where such matter may be the means of communicating disease to other persons.

Sec. 2.—Any person who shall violate the first section of this ordinance shall be liable to a penalty not exceeding $5 for the first offence, nor more than $25 for a subsequent offence, which penalty shall be imposed by and at the discretion of the board of health.

[I hereby certify that the above is a true copy of a preamble, resolution and ordinance adopted at a regular meeting of the Board of Health of the Village of Saranac Lake, N. Y., held Dec. 12, 1896. F. P. CALKINS, Secretary.]

Public Health Notes.—Owing to an epidemic of measles the schools of Dousman, Wis., have been closed.——An epidemic of measles has broken out in the Deaf, Dumb and Blind Association of Berkley, Cal.——Measles are epidemic in Toledo, Ohio, and certain portions of Chicago.

ASSOCIATION NEWS.

Fiftieth Anniversary of the American Medical Association.

ANNUAL ANNOUNCEMENT.

OFFICE OF THE PERMANENT SECRETARY,
1400 PINE ST., PHILADELPHIA.

The Forty-eighth[1] Annual Session will be held in Philadelphia, Pa., on Tuesday, Wednesday, Thursday and Friday, June 1, 2, 3 and 4, commencing on Tuesday, at 10 A.M.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies *as are recognized by representation in their respective State societies*, and from the medical departments of the Army and Navy and the Marine-Hospital Service of the United States.

"Each State, county and district medical society entitled to representation shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *Provided*, however, that the number of dele-

[1] There were no meetings held by the ASSOCIATION during the years 1861 and 1862.

s for any particular State, Territory, county, city or town ll not exceed the ratio of one in ten of the resident physi-ns who may have signed the Code of Ethics of the Asso-TION."

Members by Application.—Members by application shall nsist of such members of the State, county and district med-l societies entitled to representation in this ASSOCIATION as ll make application in writing to the Treasurer, and accom-ny said application with a certificate of good standing, signed the president and secretary of the society of which they are embers, and the amount of the annual subscription fee, $5. ey shall have their names upon the roll, and have all the hts and privileges accorded to *permanent members*, and all retain their membership upon the same terms.

The following resolution was adopted at the Session of 1888: That in future each delegate or permanent member shall, hen he registers, also record the name of the Section, if any, at he will attend, and in which he will cast his vote for Sec-on officers.

Secretaries of medical societies, *as above designated*, are rnestly requested to forward, *at once*, lists of their delegates.

Addresses: The Presidential Address, Nicholas Senn, Chi-go; Address in Surgery, Wm. W. Keen, Philadelphia; ddress in Medicine, Austin Flint, New York; Address in tate Medicine, John B. Hamilton, Chicago.

Committee of Arrangements.—H. A. Hare, 222 S. 15th treet, Philadelphia.

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.

Offered by I. N. LOVE:

Art. IV.—Officers. Amend to read "Each officer shall hold his appointment for one year, and until another is elected to succeed him."

Offered by the EXECUTIVE COMMITTEE:

That there be made an Executive Council of five consisting of the three officers of the Executive Committee and two officers chosen by election. Of this Council of five, one must belong to the Section on Practice of Medicine and one to the Section on Surgery and Anatomy. To this Executive Council shall be delegated all the duties of the Executive Committee during the interval between its meetings.

Offered by H. B. ELLIS:

Art. IX.—Conditions for further representation. "Any State or local medical society, or other organized institution whose rules, regulations and code of ethics agree in principle with those of this ASSOCIATION may be entitled to representation on the advice or agreement of the Judicial Council."

Offered by L. D. BULKLEY:

To change the name of the Section on Dermatology and Syphilography to that of "Cutaneous Medicine and Surgery."

EXTRACTS FROM BY-LAWS.

"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including suggestions in regard to improvements in methods of work, and present the same to the Section over which he presides, on the first day of the annual meeting. The reading of such address not to occupy more than forty minutes."—*By-Laws.*

"It shall be the duty of every member of the ASSOCIATION who proposes to present a paper or report to any one of the Sections, to forward either the paper or a title indicative of its contents and length (not to exceed twenty minutes in reading) to the Secretary of said Section, at least one month before the annual meeting at which the paper or report is to be read."—*By-Laws.*

4.—*The Publication of Papers and Reports.* "Every paper received by this ASSOCIATION and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the ASSOCIATION, and shall be published and sold for the exclusive benefit of the ASSOCIATION."—*By-Laws.*

OFFICERS OF SECTIONS.

Practice of Medicine.—J. H. Musser, Philadelphia, Chairman; J. T. Priestley, Des Moines, Iowa, Secretary.

Obstetrics and Diseases of Women.—Milo B. Ward, Topeka, Kan., Chairman; Geo. H. Noble, Atlanta, Ga., Secretary.

Surgery and Anatomy.—Reginald H. Sayre, New York, Chairman; Bayard Holmes, Chicago, Secretary.

State Medicine.—Elmer Lee, Chicago, Chairman; Louis Faugères Bishop, New York, Secretary.

Ophthalmology.—G. E. de Schweinitz, Philadelphia, Chairman; H. M. Starkey, Chicago, Secretary.

Diseases of Children.—Jas. A. Larrabee, Louisville, Ky., Chairman; H. E. Tuley, Louisville, Ky., Secretary.

Dental and Oral Surgery.—R. R. Andrews, Cambridge, Mass., Chairman; Eugene S. Talbot, Chicago, Secretary.

Neurology and Medical Jurisprudence.—W. J. Herdman, Ann Arbor, Mich., Chairman; Chas. H. Hughes, St. Louis, Mo., Secretary.

Dermatology and Syphilography.—A. Ravogli, Cincinnati, Ohio, Chairman; T. C. Gilchrist, Baltimore, Md., Secretary.

Laryngology and Otology.—Wm. E. Casselberry, Chicago, Chairman; D. Braden Kyle, Philadelphia, Secretary.

Materia Medica, Pharmacy and Therapeutics.—W. B. Hill, Milwaukee, Wis., Chairman; F. Woodbury, Philadelphia, Secretary.

Physiology and Dietetics.—A. P. Clarke, Cambridge, Mass., Chairman; Ephraim Cutter, New York, Secretary.

Section on Obstetrics and Diseases of Women.—The program for this Section is now being made up, and members are requested to send in the titles of their papers without delay.

GEO. H. NOBLE, Secretary.

Section on Physiology and Dietetics.—Papers for the Section of Physiology and Dietetics, are wanted as follows:

1. Physiology of Air—Ear Hairs as Ultimate Organs of Hearing, with demonstration.
2. Comparative Physiology of Deglutition, specially of Whales.
3. Effects of Odors upon Blood Circulation.
4. Autonomy of Organs, specially of Epithelia.
5. Are there Nerves in Teeth?

Address A. P. CLARKE, Chairman,
825 Massachusetts Ave., Cambridgeport, Mass.
E. CUTTER, Sec., 120 Broadway, New York.

Section on Surgery and Anatomy.—On the evening of the first day of the meeting of the ASSOCIATION in Philadelphia, Tuesday, June 1, the Section on Surgery and Anatomy will have a dinner. The price of tickets has been fixed at Three Dollars ($3.00) a plate, without wine.

Members of the ASSOCIATION who desire to attend the dinner of this Section will please cut out the accompanying slip, fill it out and mail it to the chairman of the Section, Dr. Reginald H. Sayre, 285 5th Ave., New York. This should be done at once in order that proper arrangements can be made in accordance with the number who will be present.

. . . . . , 1897.

Dr. REGINALD H. SAYRE, 285 5th Ave., New York, N. Y.

Dear Sir: I will take . . . ticket for the dinner of the Section on Surgery and Anatomy of the AMERICAN MEDICAL ASSOCIATION in Philadelphia, on Tuesday, June 1, 1897, at Three Dollars each ($3.00) without wine.

Name . . . . . .

Address . . . . . .

The JOURNAL train will run special from Chicago to Philadelphia.

SOCIETY NEWS.

The New York Neurological Society.—The Neurological Society of New York has a committee on legislation consisting of Drs. C. L. Dana, N. Allen Starr, G. W. Jacoby, Joseph Collins and G. M. Hammond, whose duty it will be to secure amendments to the Lunacy Law, that took effect last July. The new law wiped out the old provision for the care of the patient pending the initial inquest after two qualified physicians had given their certificate. The amount of difficulties that have been thrown in the way of certifying medical men—the new process being both more expensive and tedious—has been such that not a few physicians have found it advisable to commit insane patients to institutions outside of that State, so far as has been possible. In regard to the pauper insane, the new procedure is *ultra*

vires in many cases; they have neither friend nor relative to pray the judge that examination be had, so that that stipulation has been a dead letter, or the task has been thrown upon the city examiners, whose duties do not normally include that work. The New York Society of Medical Jurisprudence has also taken up the subject, in like spirit, and a committee of conference has been ordered to use all proper efforts toward amelioration of the troublesome features of the Act in question. It is expected that the New York county associations will also take part in the movement.

Iowa State Medical Society.—The forty-sixth annual meeting will be held in Marshalltown, May 19 to 21, 1897, one month later than last year, and you are earnestly requested to be present and bring your medical friends.

Chairmen of Sections: Surgery, Dr. R. W. Hill, Davenport. Nervous and Mental Diseases, Dr. E. R. Smith, Toledo. Theory and Practice, Dr. Geo. A. Smith, Clinton. State Medicine, Dr. F. S. Thomas, Council Bluffs. Obstetrics and Gynecology, Dr. J. R. Guthrie, Dubuque. Ophthalmology and Otology, Dr. F. E, Sampson, Creston. Materia Medica and Therapeutics, Dr. H. A. Leipziger, Burlington.

Chairmen of Committees: Finance, Dr. C. S. Chase, Waterloo. Trustees, Dr. Calvin Snook, Fairfield. Arrangements, Dr. H. L. Getz, Marshalltown. Publication, Dr. H. B. Young, Burlington. Ethics, Dr. D. S. Fairchild, Clinton. Legislation, Dr. D. C. Brockman, Ottumwa.

All personal communications, pertaining to Sections or Committees, should be addressed to its chairman.

J. C. SCHRADER, M.D., Pres., Iowa City.
JAMES W. COKENOWER, Sec'y, Des Moines.

Tri-State Medical Society.—The fifth annual meeting of the Tri-State Medical Society of Iowa, Illinois and Missouri, will meet in St. Louis, April 6 to 8, 1897. A large number of valuable papers will be read. Dr. Joseph Price of Philadelphia will hold the surgical clinic, Dr. James T. Whittaker of Cincinnati the medical clinic, and Dr. Dudley Reynolds, ophthalmic clinic. Dr. G. Frank Lydston of Chicago will entertain the members with an original story during one of the evening sessions. The officers are: President, A. H. Cordier, M.D., Rialto Bldg., Kansas City. First Vice-President, Hugh T. Patrick, M.D., Chicago. Second Vice-President, H. C. Eschbach, M.D., Albia, Iowa. Secretary, G. W. Cale, M.D., 4403 Washington Boul., St. Louis. Treasurer, C. S. Chase, M.D., Waterloo, Iowa.

Western Ophthalmological, Otological, Laryngological and Rhinological Association.—The second annual meeting of this Association will be held at St. Louis, Mo., April 8 and 9, 1897. A cordial invitation is extended to the profession. President, Adolf Alt. Vice-Presidents, B. E. Fryer, J. H. Martindale. Treasurer, W. L. Dayton. Secretary, Hal Foster.

The railroads have promised one and one-half fare. When buying tickets ask for a certificate, on reaching St. Louis have it signed by Dr. Alt.

Medical Society of the Missouri Valley.—The next meeting of this Society will be held at Lincoln, Neb., Thursday, March 18, 1897. DONALD MACRAE, JR., M.D., Sec'y.

Will County (Ill.) Medical Society.—At a regular meeting of this Society held February 11, the following officers were elected: President, F. W. Werener; vice-president, W. B. Stewart; secretary and treasurer, L. J. Frederick.

The Grand Rapids Academy of Medicine has elected officers for the ensuing year as follows: President, Ralph H. Spencer; vice-president, H. W. Catlin; secretary, J. B. Whinnery; treasurer, Earl Bingham.

NECROLOGY.

WILLOUGHBY I. WOOD, M.D., Bellevue Hospital Medical College, 1890, died February 20, in Guilford, N. Y., where he had gone four months ago for his health. He was born in Brooklyn, N. Y., and was mainly educated there, becoming in time the responsible surgeon of the Norwegian Hospital as well as a gynecologist with a promising future. His age was 28 years.

JOHN HAMILTON, M.D., of Allegheny, Pa., died at Pitts' Island, Lake Worth, Florida, February 12. He was born in Ohio in 1827, and had practiced in Allegheny for several years.

WILLIAM J. BLAND, M.D., of Clarksburg, W. Va., February 20. He was born in Kingwood, Va., in 1816, living the most of his life in Weston, and since 1892 in Clarksburg. He was graduated from Jefferson Medical College and the Louisville Medical College and for many years a member of the State Board of Health. For eight years commencing in 1881, he [illegible] superintendent of the West Virginia Hospital for the In[illegible] at Weston. He was surgeon in the Thirty-first West Virg[illegible] Infantry and was afterward Chief Surgeon of Wm. L. J[illegible] son's Cavalry Brigade. He at one time represented L[illegible] County in the Legislature.

DAVID BOYD, M.D., New York, died at his country hom[illegible] Red Bank, N. J., February 17, aged 74.

EUGENE K. MOTT, M.D., of Chester, Pa., February 22 [illegible] was born in Scranton, Pa., is 1842 and was graduated from [illegible] Jefferson Medical College in 1868. In 1874 he removed [illegible] Chester.

NEW INSTRUMENTS.

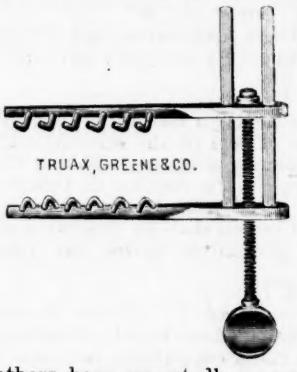
A NEW MASTOID RETRACTOR.

BY FRANK ALLPORT, M.D.

Professor of Clinical Ophthalmology and Otology in the Minnesota State University; ex-President of the Minnesota State Medical Society; ex-Secretary of the Ophthalmological Section of the American Medical Association, etc.

MINNEAPOLIS, MINN.

For some years I have been using my old retractors in mastoi[illegible] and similar operations, and have been well pleased with the[illegible] The only objection noticed has been the fact that, as the incisio[illegible] and bone opening has been growing larger, owing to o[illegible] improved knowledge and operations, the retractor has at tim[illegible] seemed to me rather small. This difficulty has been obviate[illegible] by myself and others by using two retractors, one in eac[illegible] extremity of the wound, being careful they do not overlap ea[illegible] other. This arrangement has proven eminently satisfactor[illegible] opening as it does a large and bloodless field of operation, a[illegible] I still feel that in its thorough usefulness it is as good a meth[illegible] as can be adopted. Some operators, however, dislike to u[illegible]



two retractors; others have repeatedly expressed the opinion that the blades of the retractors should be always parallel to each other, both when closed and open; others have felt that the retractors were not strong enough. To obviate the objections raised by such surgeons, I have devised and had manufactured for me, by Chas. Truax, Green & Co., of Chicago, a retractor, of which a cut is here given. It is very strongly made, nearly three inches in length, and with an expansive limit of two inches, which is large enough for any operation of this nature. It will be noticed that the blades always lie parallel to each other, and that the instrument is small, compactly built and difficult to get out of order.

BOOK NOTICES.

Telepathy and the Subliminal Self. An Account of Recent Investigations Regarding Hypnotism, Automatisms, Dreams, Fanaticisms and Related Phenomena. By R. OSGOOD MASON, A.M., M.D. Pages 343. New York: Henry Holden Co., 1897.

Dr. Mason takes very broad ground; we might even say advanced ground in this work, but that it is interesting to all persons interested in psychology goes without saying. Some of the stories told are as interesting as veritable ghost stories usually are, and some of them almost as intangible. He asserts, however, that the folllowing may be considered as established facts (p. 72). "The reality of the hypnotic condition, the increased and unusual power of the hypnotic condition and unusual power of suggestion over the hypnotized subject; (3) the usefulness of hypnotism as a therapeutic agent; (4) the perfect

ty of natural as contrasted with supernatural character of y wonderful phenomena, both physical and psychical, pted in the hypnotic state. On these subjects" says the hor, "much remains for future study. (1) The exact nature e influence which produced the hypnotic condition is not wn. (2) Neither is the nature of the report or peculiar relaship which exists between the hypnotizer and the hypnotsubject; the relationship is sometimes so close that the ject hears no voice but that of his hypnotizer, perceives and eriences the same sensations of taste, touch and feeling genly as are experienced by him and can be awakened only by . (3) Nor is it known by what peculiar process suggesis rendered so potent, turning for the time being, at least, er into wine, vulgar weeds into the choicest flowers, a lady's wing room into a fish pond, clear skies and quiet waters latent storm clouds and tempest tossed waves, turning ghter into sadness and tears into mirth" (page 26). The hor insists on the reality of thought transference to a lim- degree, and like Charcot he accepts certain of the claims de by those who deeply investigated this branch of science, he admits that there is yet very much to learn in the ain of psychology. While few in our profession are at sent prepared to accept all of the theories of Dr. Mason and school in regard to these matters, or even to accept as consively established the fundamental principles of "thought nsference" and "suggestion," all must admit as Shakespeare g ago pointed out and aptly quoted by Charcot: "There more things in heaven and earth, Horatio, than are amt of in your philosophy."

Dr. Mason tells some curious stories which are almost t belief. One in particular about a young woman, who lthough she had never seen that kind of work done, and had t the slightest idea how to mix colors to produce the desired ts, nor how to apply them to produce desired effects, yet at ingle sitting in a darkened room, she produced a head of gular strength and character, possessing at least some artis- merit." The reproduction which appears as a frontispiece Dr. Mason's volume gives an idea of its character. The thor concludes by saying that, "in gathering up the results these investigations it must be said that in showing the lations of science there is no thought of any detraction from e nobility and greatness of the scientific achievement in the aterial world. That is grand almost beyond estimation. The titude of science is conservative and it is right, but sooner later it must awake to the fact that here is a new field for vestigation which comes strikingly within the limits of its bors and even within its methods. Many individual mem- rs of the great body of scientific workers see and know this; radually the majority will see it."

enito-Urinary Diseases and Venereal Diseases. By J. Wm. WHITE, M.D., and EDWARD MARTIN, M.D. Illustrated. Philadelphia: J. B. Lippincott Co., 1897.

This work of 1,061 beautifully printed pages, and profusely lustrated, brings the subject of genito-urinary diseases down date, even to the intangible shadowgraph of renal calculus *situ*. Nothing is omitted which is necessary for a proper nderstanding of the subject. The practitioner and student ill find their wants intelligently understood and a faithful ttempt made to supply them. The Chapters on Tumors of the Bladder, Diseases and Injuries of the Ureters, and Injuries and Diseases of the Kidneys will be found especially entertaining nd instructive. The general surgeon, as a rule, will not agree ith the author when in speaking of the treatment of enlarged rostate, page 991, he says, "Castration for prostatic hypertrophy, first advocated (White) in 1893, has since been performed in hundreds of cases and with results which establishes t as the safest and most radical curative operation yet proosed." We do not believe that this operation will ever become opular for surgeons, as the public at least have some rights in the premises. Moreover, it is liable to such abuses as almost to prohibit the operation. The medico-legal standpoint alone affords a strong obstacle. Furthermore, the operation is not harmless, as cases are on record where the operation has been performed while the patient was suffering from septicemia, and had lost the power of resistance to shock, causing a fatal result and mistakes in diagnosis are not so infrequent as to make it a matter of indifference. An instance is known to the writer where a patient, sent into a hospital for the performance of this operation, for supposed enlarged prostate, was found to have stone in the bladder, and it must be remembered that castration is not here proposed for experts in diagnosis alone, but for *all* practitioners. Inconceivable and numberless would be the damage suits likely to follow the indiscriminate application of White's remedy. Moreover, castration has not yet been shown to have any advantage over section of the vas deferens with ligature of the spermatic artery, as it must be obvious that natural atrophy of the testicle has less constitutional effect on the patient than its entire removal. The book is, however, a very valuable addition to the subject of genito-urinary and venereal diseases.

Annual of the Universal Medical Sciences and Analytical Index. A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by CHARLES E. SAJOUS, M.D., Paris, and seventy associate editors, assisted by over two hundred corresponding editors and correspondents. Illustrated, five volumes. 1896. The F. A. Davis Co., publishers, Philadelphia and New York and Chicago (Lakeside Building).

In the elaboration of the 1896 Annual the aim of the editor, he says, "has been to add to the practical value possessed by former issues." The value of a book of this kind lies largely in the index, and the extra care with which its analytical index has been prepared makes it of very much more value. The illustrations are more copious than ever and we doubt not the Annual will be correspondingly more popular. It certainly deserves to be. The publishers have spared no pains or expense to make the work what it should be.

Pictorial Atlas of Skin Diseases and Syphilitic Affections. Photolithochromes from Models in the Museum, St. Louis Hospital, Paris. With explanatory woodcuts. By ERNEST BESNIER, A. FOURNIER, TENNESON, HALLOPEAU, DUCASTEL, FEULARD, JACQUET. Edited and annotated by J. J. PRINGLE. London: Rebman Publishing Co. Philadelphia: W. B. Saunders. 1896. Part I.

The illustrations and text in this number relate to the lesions in the habitual cocain-morphin consumer, by Gaston; Ringworm of the body; syphilitic hyperkeratosis; psoriasis figurata. The plates in this number have been executed with the same care and skill that made its predecessors such accurate and truthful representatives of the great St. Louis Hospital. Fortunate, indeed, will be the general practitioner and dermatologist who has in his possession a copy of this magnificent series, for it brings to his library a faithful reproduction of the typical models of the great hospital.

A System of Medicine. Edited by THOMAS CLIFFORD ALLBUTT and W. S. PLAYFAIR. Volume II, Gynecology. Pages, 973. New York and London: Macmillan Co., 1896. Price of the book singular, $6; that of system, $5, cloth; leather $7 and $6 respectively.

The editor of this System of Medicine has returned to the plan adopted in the earlier treatises, including the treatment of diseases of women in this system, and as this department of medicine has grown so large it is found to occupy an entire volume. The contributers to the volume are eminent English gynecologists and include, J. Wm. Ballantyne, A. H. Freeland Barbour, John Halliday Croom, Alban Doran, W. S. A. Griffith, F. W. N. Haultin, Handfield Jones, Henry Morris, John Phillips, Wm. O. Priestly, Alexander R. Simpson, J. Grieg Smith, John B. Sutton, W. Balls-Headly, Robert Boxall, Chas. J. Cullingworth, Henry Gervis, D. Berry Hart, George E. Herman, Edward Malins, Robert Milne Murray, W. S.

Playfair, Amand Routh, W. J. Sinclair, Wm. J. Smyly, J. Knowsley Thornton.

The volume opens with an interesting historical chapter on the Development of Modern Gynecology by Handfield Jones, and it is followed systematically by anatomy, malformations and diseases of the female generative organs; then follow chapters on sterility, gynecologic therapeutics, pelvic diseases and diseases of the uterus proper, and concludes with a chapter on diseases of the bladder and urethra. The work is well written, quite up to date, and will be found a useful and safe guide to the practice of this branch of the art.

Deutsch's Letters. A practical Method for easy and thorough Self-instruction in the German Language. By SOLOMON DEUTSCH, Ph.D. Second and revised edition, New York. 1896. Price $2. (We are informed by personal letter that the publisher is now J. H. Vail & Co. instead of Brentano, which appears on the title page.)

The second edition differs from the first edition in having appended to it the key to the German exercises, and it is believed that this edition will enable the sincere learner to fairly accomplish a translating knowledge of the language without a teacher from the mere study of the book, although there is no question but anyone who wishes to speak any language with accuracy and precision must in addition use a colloquial method. We commend the book as being one of the best of its kind.

MISCELLANY.

Tests of Crede's Silver Gauze and Salts as Antiseptics.—The *Cbl. f. Chir.* of January 23 contains the reports of three scientists who have been experimenting with silver to determine its value in antisepsis. The results fail to confirm Credé's experiences. Zajontschowsky states that the gauze is not sterile; that it does prevent the development of bacteria to a limited extent, but is not bactericidal at all, and that much of the effect Credé ascribes to it is due to the absorptive power of the gauze, whether impregnated with silver or not. Iodoform gauze kept in sublimate solution, 1 to 2,000, as is used in his service, is more effective than the silver gauze. Meyer of Zurich also states that in his numerous and careful tests the staph. pyog. aur. were destroyed in an itrol solution (1 to 4,000) only after forty-five minutes, and in an actol solution (1 to 2,000) after thirty minutes. Albumin in the silver salt solution retards the bactericidal effect. Anthrax spores were still growing after five to seven days in a saturated itrol solution and after three days in an actol solution (1 to 1,000). Silver salts added to the bouillon prevented the development of staph. and pyocy., but anthrax spores continued to grow in serum to which actol had been added (1 to 10,000). In regard to their effect in preventing the development of bacteria in abluminous media, silver salts approach very closely to sublimate, but in aqueous solutions, sublimate is a far more powerful antiseptic than the former. Other tests by Brunner show that the effect of the silver is more decided and rapid as the bacteria are less virulent.

Remarkable Case of Foreign Bodies in the Stomach; Gastrotomy and Prompt Recovery.—The *Deutsche med. Woch.* of January 21 contains an illustrated description of thirty-seven articles removed by Fricker of Odessa from the stomach of a young woman who had swallowed them in an attempt to commit suicide in an attack of nervous melancholia. They weighed in all 261.85 grams, and included a door key, a silver teaspoon, a plated spoon, a fork (20.5 cm. long), two pieces of wire, two hairpins, twelve pieces of window-pane glass, one window hook, one steel pin, nine sewing needles, one crochet needle, which had perforated the wall of the stomach, beside some buttons, etc. The patient had complained of pains and vomited, but as palpation did not disclose the presence of the foreign bodies that she asserted she had swallowed, her statements were not credited at first. Fricker tabulates the most remarkable cases of the kind on record, including one from the JOURNAL. One article was found alone in all but three of the fifty-three cases. In six cases a set of false teeth had been swallowed, a fork in fourteen, a knife in ten, a spoon in seven. Most of the larger articles were taken from "professional swallowers." In one case three closed pocket-knives were removed and the man afterward swallowed two more, which passed out *per anum*. The fatal cases were those in which a Japanese tooth brush, a razor, an instrument and a set of teeth had been swallowed; also the case of an insane man who had swallowed nearly two pounds of nails. A 10-year-old child recovered after having swallowed forty-two nails, ninety-three brass and tin pegs, twelve large nails, one safety pin, one needle and three shirt buttons. The proportion of recoveries in the fifty-three cases was 81.4 per cent. and deaths 18.6 per cent.

Taxing Private Clinics in Germany.—The *Deutsche med. Woch.* in its issue of January 21, protests vigorously against the new regulations which impose a tax on the private hospitals conducted by physicians. It is not ambition nor the hope of pecuniary rewards that causes physicians to start a private establishment for their patients, but pure love of science and the desire to perfect their knowledge and skill in their special branch. To class such establishments with ordinary boarding houses and hotels, is manifestly unjust. The physician will be inclined to relinquish the management and responsibility of his clinic to non-professionals, to escape the tax, which creates an invidious distinction between him and his colleagues, and the establishment will suffer, while science and the healing art will retrograde. The increase in the private hospitals in Berlin in the last few years has been remarkable:

Year	Public Hospitals.	Beds.	Patients.	Private Hospitals.	Beds.	Patients.
1879	13	4,100	39,800	2[1]	36	15
1885	14	5,130	49,000	5[1]	124	1,2
1888	15	5,500	53,000	19	360	2,5
1891	18	6,700	62,000	29[1]	623	5,9
1894	18	6,570	68,000	40[1]	808	7,9
1895			86,000			10,0

THE PUBLIC SERVICES.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Feb. 20 to Feb. 26, 1897.

First Lieut. Robert S. Woodson, Asst. Surgeon (Jackson Bks., La.), is granted leave of absence for two months, to take effect on or about March 5, 1897.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending Feb. 27, 1897.

P. A. Surgeon G. T. Smith, detached from the "Adams" on reporting of his relief about March 2, ordered home and granted two months' leave.

P. A. Surgeon L. H. Stone, detached from the naval hospital, New York, March 15, and ordered to the "Adams."

Surgeon G. P. Bradley, detached from the "Indiana" March 3, ordered home and placed on waiting orders.

Surgeon N. McP. Ferebee, ordered to the "Indiana" March 3.

P. A. Surgeon W. F. Arnold, ordered as a member of the medical examining board, League Island navy yard.

P. A. Surgeon L. W. Atlee, detached as member of the medical examining board, League Island navy yard.

Change of Address.

Bailhache, P. H., from Stapleton, N. Y. to 1819 to M Street, N. W. Washington, D. C.; Billig, A., from 4944 S. Ashland Ave., to 360 E 42d Street, Chicago, Ill.; Bourns, F. S., from Grand Opera House to 78 Marietta Street, Atlanta, Ga.

Forrester, Jos., from Butler to 512 W. 4th Street, Erie, Pa.

Johnson, E. F., from 523 Locust to 504 Walnut Street, Chicago, Ill.

Kilbride T. F., from Ayrshire, Iowa, to Emmetsburg, Iowa.

Stoner, Geo. W., U. S. M.-H. S., from Baltimore, Md., to Stapleton, L. I., N. Y.

LETTERS RECEIVED.

Alexander, L. C., (Miss) (2) Philadelphia, Pa.

Beavis, Arthur, Denver, Colo.; Bailey W. G., Pekin, Ill.; Benedict, A. L., Buffalo, N. Y.

Clarke, Augustus P., Cambridge, Mass.

Doliber-Goodale Co., Boston, Mass.

Furay, C. E., Chadron, Neb.; Fuller & Wheeler, Albany, N. Y.

Garber, J. B., Dunkirk, Ind.; Goble, E. P., Woodstock, Vt.

Huizinga, A. G., Chicago, Ill.

Johnson, J. V., Sheboygan, Wis.

Kellogg, C. S., New Orleans, La.

Long Island Bottling Co., Brooklyn, N. Y.; Leszynsky, W. M., New York, N. Y.; Lutz, J. C., St. Louis, Mo.; Levin, W., New York, N. Y.

Milbury, F. S., Brooklyn, N. Y.; Mills, Harry B., Philadelphia, Pa.; Montgomery, E. E., Philadelphia, Pa.; McKie, Thos. J., Woodlawn, S. C.

Newman, Henry P., Chicago, Ill.

Orr, Wm. P., Lewes, Del.

Parke, Davis & Co., Detroit, Mich.

Robbins, Charles Pern, Winona, Minn.; Reed, R. Harvey, Columbus, Ohio.

Towler, S. S., Marienville, Pa.

Will, O. B., Peoria, Ill.; Warren, Wm. M., Detroit, Mich.

Zumo Pharmacal Co., St. Louis, Mo.

[1] Not in the hands of a physician.